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KNOWLEDGE, ATTITUDES AND PRACTICES OF HEALTH PROFESSIONALS IN MANAGEMENT OF PAIN IN AIDS PATIENTS AT POLOKWANE/MANKWENG HOSPITAL COMPLEX, LIMPOPO PROVINCE

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DECLARATION

I, MJA Ratshikana-Moloko, hereby declare that the work on which this dissertation/thesis is based is my original work (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

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Contents

LIST OF FIGURES	3
LIST OF TABLES	4
ABBREVIATIONS.....	5
ABSTRACT.....	6
CHAPTER ONE	8
INTRODUCTION.....	8
1.1 BACKGROUND.....	9
1.2 PALLIATIVE CARE NEEDS IN HIV/AIDS.....	13
1.3 PALLIATIVE CARE SERVICES IN AFRICA	18
CHAPTER 2	22
LITERATURE REVIEW	22
2.1 INTRODUCTION.....	22
2.2 LITERATURE REVIEW	22
2.3 RATIONALE FOR THE STUDY.....	28
CHAPTER 3	30
AIMS AND OBJECTIVES.....	30
3.1 INTRODUCTION.....	30
3.2 AIMS	30
3.3 SPECIFIC OBJECTIVES.....	30
CHAPTER 4	31
METHODOLOGY	31
4.1 INTRODUCTION.....	31
4.2 STUDY METHODS	31
4.3 ETHICAL CONSIDERATIONS	34
CHAPTER 5	35
RESULTS	35
5.1 INTRODUCTION.....	35
5.4. FREQUENCY TABLES FOR VARIABLES AND THEIR DESCRIPTION	37
5.4.2 ATTITUDE OF DOCTORS AT PMHC	42

5.4.3	PRACTICE PATTERNS OF DOCTORS AT PMHC	46
5.4.4	CORRELATIONS BETWEEN VARIABLES	50
	CHAPTER 6	52
	DISCUSSION	52
6.1	INTRODUCTION	52
6.2	RESPONSE RATE OF PARTICIPANTS.....	52
6.3	CHARACTERISTICS OF THE SAMPLE (DEMOGRAPHIC VARIABLES)	52
6.4.	KNOWLEDGE OF DOCTORS AT PMHC.....	53
6.5	ATTITUDE.....	58
6.6	PRACTICE PATTERNS OF DOCTORS	61
6.7.	CORRELATION BETWEEN KNOWLEDGE, ATTITUDE AND PRACTICE	64
6.8.	LIMITATIONS OF THE STUDY	64
	CHAPTER 7	66
	CONCLUSIONS	66
7.1	INTRODUCTION	66
7.2	CONCLUSION.....	66
7.4	RECOMMENDATIONS	67
	REFERENCES	69

LIST OF FIGURES

Figure	Page
Figure 1.1 WHO pain ladder	17
Figure 5.1 Bar chart of category distribution	35
Figure 5.2 Bar chart of field of practice distribution	36
Figure 5.3 Pie chart indication working experience	37
Figure 5.4 Bar chart displaying the level of knowledge	40
Figure 5.5 Bar chart displaying level of attitude of doctors	44
Figure 5.6 Bar chart displaying levels of prescribing pattern	48

LIST OF TABLES

Table	Page
Table 1.1 Provincial HIV prevalence estimates: Antenatal clinic attendees, South Africa 2004- 2006	11
Table 1.2 HIV Prevalence by district in Limpopo Province	11
Table 5.1 Comparison of practice	38
Table 5.2 Comparison of knowledge by category	40
Table 5.3 Comparison of knowledge by field of practice	41
Table 5.4 Comparison of knowledge by years of practice	41
Table 5.5 Frequency table of determining attitudes of doctors at PMHC	42
Table 5.6 Comparison of attitude by category	45
Table 5.7 Comparison of attitude by field of practice	45
Table 5.8 Comparison of attitude by years practice	45
Table.5.9 Frequency table determining the practice pattern regarding prescribing analgesics	46
Table.5.10 Comparison of practice by category	49
Table 5.11 Comparison of practice by field of practice	49
Table 5.12 Comparison of practice by years of practice	49

ABBREVIATIONS

CCMT: Operational plan for Comprehensive care, management and treatment of HIV/AIDS

CME: Continuing Medical Education

HAART: Highly active antiretroviral therapy

HIV: Human Immunodeficiency Virus

AIDS: Acquired Immune Deficiency Virus

KAPB: Knowledge, attitude, behaviour and practice

KAP: Knowledge, attitude and practice

USAIDS: United States Agency for International Development

PMHC: Polokwane/Mankweng Hospital Complex

NDOH: National Department of Health

SA: South Africa

HPCA: Hospice Palliative Care Association

CI: Confidence interval

Stats SA: Statistics South Africa

SD: Standard deviation

NSP: National Strategic Plan

NPO: Nonprofit organization

NGO: Nongovernmental organization

LIST OF APPENDICES

Appendix I: Revised World Health Organization (WHO) Clinical Staging of HIV/AIDS for Adults and Adolescents	i
Appendix II: Information leaflet and consent form	iii
Appendix III: Questionnaire	v
Appendix IV: UCT Research Ethical Approval	x
Appendix V: Ethical Approval: Limpopo Provincial Department of Health and Social Development	xi

ABSTRACT

This study was initiated as part of a quality improvement project on pain management at Polokwane/Mankweng Hospital Complex (PMHC). This is the first part of the project, which involved a baseline study to assess the knowledge, attitude and practice of doctors working in the two hospitals in managing pain in HIV/AIDS patients.

Admissions due to the AIDS epidemic have continued to rise over the years, with a quarter of admission in medical wards being attributed to AIDS related diseases¹.

The survey was conducted at Polokwane/Mankweng Hospital Complex. One hundred and twenty questionnaires were distributed, and 52% of the doctors returned the completed questionnaires.

The objectives of the study were as follows:

1. To determine the level of knowledge of doctors in PMHC about pain in AIDS patients.
2. To determine the attitudes of doctors in PMHC regarding pain management in AIDS patients.
3. To determine their practice regarding prescribing analgesics for pain in AIDS patients.
4. To determine whether the level of knowledge and their attitudes affect their prescribing practice.

The level of knowledge of doctors at PMHC is low compared to previous studies^{2,3,4} with a mean of 46.92%. The level of knowledge for Oncologists is not better than other specialties. The oncologists do however have better knowledge of the WHO pain ladder compared to other specialties. The doctors (56.9%) are not familiar with the WHO pain ladder, which has been in existence for over 20 years.

The doctors are aware that pain management is major problem (69.2%), and that one has to aim for complete pain relief (83.1%).

Community Service doctors have been found to have the lowest mean score for level of knowledge (33.92%, SD=9.44) and level of attitude (52.39%, SD=17.81). Interns on the other hand had the highest mean score for the level of attitude (80.55%, SD=19.47) and knowledge (58.33; SD=17.07).

Most doctors still believe that the likelihood of patients developing addiction to morphine when given for chronic pain is moderate to high (67.7%).

The demographic variables had no influence on the level of knowledge, level of attitude and the practice pattern.

There was a positive correlation in the level of knowledge and the level of attitude ($p=0.014$), as well as the practice pattern ($p=0.001$), which is different from what other studies obtained. The level of attitude also correlated with practice pattern ($p=0.0004$).

Although the study has limitations, important and interesting findings have come to the fore, and have to be acted upon.

Management of chronic pain and palliative care has not been part of medical training in South Africa until recently, and is still a small part of the curriculum, if at all. The need for training of doctors in pain management and palliative is evident.

The Limpopo Provincial Government and PMHC have to develop a strategy on how to address the identified gaps in the knowledge, attitude and practices of doctors.

CHAPTER ONE

This chapter will give a brief overview of the HIV/AIDS pandemic globally and the situation in Sub-Saharan Africa. The HIV/AIDS in South Africa will also be described, including a brief overview of the situation in Limpopo Province.

A description of palliative care services both in Africa and South Africa will be outlined, including the importance of palliative care in HIV/AIDS.

INTRODUCTION

Pain is one of the most common symptoms reported in HIV and AIDS patients^{5, 6, 7, 8}. It is also reported in a number of studies to be under diagnosed and under treated^{9, 10, and 11}.

No words can better describe how the HIV/AIDS pandemic affects all of us than President Nelson Mandela when he closed the 13th AIDS International Conference: “a tragedy of unprecedented proportions is unfolding in Africa. AIDS today in Africa is claiming more lives than the sum total of all wars, famines and floods, and the ravage of such deadly diseases as malaria. It is devastating families and communities; overwhelming and depleting health care services; and robbing schools of both students and teachers.”¹²

Countries have responded to the AIDS pandemic by developing programs, which were in line with WHO recommendations. South Africa, like other countries, responded by developing the HIV/AIDS Strategic Plan which was then taken further in 2003 as the Operational plan for Comprehensive HIV and AIDS Care, Management and Treatment for South Africa (CCMT) when antiretroviral medication were introduced.

The National Strategic Plan for HIV and AIDS is a priority program intended by the South African government to address the challenges facing those affected and infected by HIV and AIDS. The National HIV and AIDS and STI Strategic Plan for South Africa 2007-2011 was developed as a follow-up to the National Strategic Plan (NSP) 2000-2005 with the following goals¹³:

1. Prevention
2. Treatment, care and support
3. Human and legal rights
4. Monitoring, research and surveillance

After the rollout of ARV in 2004, challenges were identified within the NSP 2000-2005, which affected the implementation¹⁴. Some of these challenges are listed below:

- The programme was vertical and could not be implemented by most districts as it was seen as an add-on to an already overloaded health system
- There were capacity deficits in the system, both human resource and infrastructure
- The targets set were not clear
- Monitoring and evaluation framework was lacking

This study aims to assess doctors' knowledge about pain management in HIV and AIDS patients, their attitudes towards managing pain in these patients and their practices regarding analgesic prescription in AIDS patients.

1.1 BACKGROUND

1.1.1 HIV/AIDS background

HIV/AIDS affects 40.3 million people around the world, 63% of which are in the Sub-Saharan region¹⁴, where only 10% of the world population lives.

According to the AIDS Epidemic update 2005 report, an average of 4.1 million (3.4 million-6.4 million) people became infected with the virus, while 2.8 million (2.4 million-3.3 million) died from diseases associated with AIDS¹⁵.

In 2006, South Africa, Botswana, Lesotho and Swaziland were reported to be having the highest HIV antenatal prevalence in the world¹⁵.

According Statistics South Africa, South Africa has a total population of 43 millions¹⁶.

The latest HIV sero-prevalence survey¹⁷ indicates that 29.1% (CI 28.3%-31.2%) of pregnant women are HIV positive.

By 2005, an estimated 5.54 million people were living with HIV in South Africa¹⁴.

Over eighteen percent (18.8%) of those affected are aged between 15 and 49 years, with women (55%) being the most affected. The Human Science Research Council Household survey revealed that 40% of affected adults fall in the 25-29 age groups, this group being the most sexually active and economically active¹⁵. People most at risk are said to live in the rural areas and informal settlements.

The South African National Department of Health conducts antenatal HIV sero-prevalence surveys across all provinces annually. The aim of the survey is to provide

the department with changing trends which can be used for planning purposes. The surveys are also thought to provide a good estimate of the prevalence of HIV in the country. For the first time in 2006, the survey was conducted in all 53 districts of South Africa¹⁷. Limitations of the survey are described in the report.

Nationally, the HIV prevalence was 29.1 % (CI 28.3%-31.2%) compared to 30.2 % (CI 29.1%-31.2%) during 2005.

1.1.2 HIV/AIDS in Limpopo Province

Limpopo province has a population of 5,402,900¹⁴; and is the poorest of all provinces, with 66, 4% of households having an income <R800 per month, and the second lowest province with access to piped water (72, 4%). Ninety three percent of the population do not have medical aid and rely on the public health system for their health needs¹⁴.

Limpopo province has the third lowest HIV prevalence in South Africa, with prevalence of 20.6% (CI 18.9%-22.3%), which has gone down from 21.5% (CI 18.5%-24.6%) in 2005^{17,18}.

Comparison between different districts in the province showed that the prevalence of HIV varied between 14.1% and 27.5% between the different districts in Limpopo province. In the study the Department of Health has not commented on the possible reasons for the difference nor has this been explored by the writers¹⁷.

1.1.3 Comprehensive Care Management and Treatment of HIV/AIDS in South Africa

The introduction in 2004 of antiretroviral (ARV) therapy in the public sector has brought hope to those who were eligible for treatment according to the criterion set by the National Department of Health. This followed the WHO and UNAIDS launch of the 3 by 5 initiative, which committed countries to have three million people who need ARVs on treatment by the year 2005¹⁹. However, by 2005, only one million of those who required treatment had accessed antiretroviral medication, with only 500 000 in Sub Saharan Africa¹⁹. The number globally had increased to 2 015 000 by December 2006 in low to middle income countries, representing only 24-34% access for those in need of treatment. South Africa has the highest number of patients on treatment, estimated at 369 662 in November 2007^{19, 20}. This however

only represents about 30% of those who require treatment in South Africa ^{14, 21}.
Limpopo Province had at the same time 19 937 patients on treatment²⁰.

Table 1.1: Provincial HIV prevalence estimates: Antenatal clinic attendees, South Africa 2004-2006¹⁷

Province	HIV pos 95%CI 2004	HIV pos 95%CI 2005	HIV pos 95%CI 2006
KwaZulu-Natal	40.7 (38.8 - 42.7)	39.1 (36.8 - 41.4)	39.1 (37.5 - 40.7)
Mpumalanga	30.8 (27.4 - 34.2)	34.8 (31.0 - 38.5)	32.1 (29.8 - 34.4)
Free State	29.5 (26.1 - 32.9)	31.1 (29.2 - 33.1)	31.1 (29.2 - 33.1)
Gauteng	33.1 (31.0 - 35.3)	32.4 (30.6 - 34.3)	32.4 (30.6 - 34.3)
North West	26.7 (23.9 - 29.6)	31.8 (28.4 - 35.2)	29.0 (26.9 - 31.1)
Eastern Cape	28.0 (25.0 - 31.0)	29.5 (26.4 - 32.5)	28.6 (26.8 - 30.4)
Limpopo	19.3 (16.8 - 21.9)	21.5 (18.5 - 24.6)	20.6 (18.9 - 22.3)
Northern Cape	17.6 (13.0 - 22.2)	18.5 (14.6 - 22.4)	15.6 (12.7 - 18.5)
Western Cape	15.4 (12.5 - 18.2)	15.7 (11.3 - 20.1)	15.1 (11.6 - 18.7)
National	29.5 (28.5 - 30.5)	30.2 (29.1 - 31.2)	29.1 (28.3 - 29.9)

Table 1.2: HIV prevalence by district in Limpopo province¹⁷

District	Prevalence %	CI (95%)
Capricon	24.2	21.3-27.0
Mopani	24.7	21.6-27.9
Sekhukhune	16.1	13.5-18.6
Vhembe	14.1	11.9-16.4
Waterberg	27.5	23.7-31.3

Antiretroviral (ARV) have been shown to improve mortality and morbidity of HIV positive patients ²²⁻²⁶.

The South African National Antiretroviral treatment guidelines were developed to guide the rollout of the antiretroviral therapy in the public sector. These had the following goals clearly defined ²⁷:

- To decrease the morbidity and mortality associated with HIV and AIDS
- To decrease the incidence of HIV through increasing voluntary counseling and testing, reducing the risk of mother to child transmission, and reducing transmission between discordant couples.

The criterion for treatment is different from the WHO recommendation, and is as follows:

Adult selection criteria²⁷

1. CD4 < 200cells/mm³ OR
2. WHO stage IV, irrespective of the CD4 level

Besides the above, the willingness and readiness of the patient to start treatment has to be taken into consideration before a decision to start treatment is reached.

Regimen 1a

Stavudine (d4T), lamivudine (3TC) and efavirenz

Regimen 1b

Stavudine (d4T), lamivudine (3TC) and nevirapine (nevirapine is used in women of child bearing age as efavirenz is teratogenic).

Regimen 2

Zidovudine (AZT), Didanosine (ddi) and lopinavir/ritonavir (kaletra)

Box 1: Treatment regimens for South Africa²⁷

Two regimens are mainly used in South Africa (Box 1). Patients can be changed to regimen 2 only if there is treatment failure while on regimen 1.

Treatment failure can be defined as failure to suppress viral replication, with development of resistance.

Virologic failure is the increase in the viral load (ten fold), compared to the lowest level ever recorded for the patient.

Clinical failure is the progression of the disease at least three months after treatment initiation; this might be in the form of new malignancy or other opportunistic infections

Immunologic failure is when the CD4 count drops by at least 30%

Box 2: Treatment failure²⁷

A number of challenges have resulted in some of the provinces like Limpopo not achieving the set targets for 2005/2006, having only delivered on the 16.1% of set targets for CCMT operational plan²¹.

Treatment and care of HIV and AIDS patients can be divided into the following:

- i. Treating those who are HIV negative but still at risk of contracting HIV
- ii. Treating those who have tested HIV positive but are still asymptomatic
- iii. Treating those with early diseases (WHO stage 2 and stage 3)
- iv. Treating those with AIDS defining conditions (WHO stage 4)
- v. Treating those who are terminal

1.2 PALLIATIVE CARE NEEDS IN HIV/AIDS

Palliative care is defined by WHO as “an approach which improves the quality of life of patients and families who face life-threatening illness, by providing pain and symptom relief, spiritual and psychosocial support to from diagnosis to the end of life and bereavement.”²⁸ The WHO goes on to define HIV palliative care as “an essential component of comprehensive care for people living with HIV and AIDS, because of the variety of symptoms they experience such as pain, diarrhea, cough, shortness of breath, nausea, weakness, weakness, fatigue, fever and confusion”²⁹.

The symptom burden in HIV/AIDS patients has been described by different authors, and these include pain, nausea and vomiting, dyspnoea, diarrhea, cough, fatigue, fever and weakness among others^{5, 7, 8, 28, 29, 30}.

AIDS patients experience pain and symptoms because of the following³⁰

1. HIV/AIDS disease processes
2. Side effects to antiretroviral and other medication
3. Co morbidities as the disease becomes more of a chronic condition
4. Cancers associated with AIDS

Selwyn explains the importance of coordinating palliative care services and antiretroviral provision, and not concentrating on one at the expense of the decreased quality of life of the patient³¹.

The introduction of HAART has improved both the mortality and morbidity and quality of life of AIDS patients²²⁻²⁶. The decreased mortality has translated in increased

prevalence of AIDS; with more patients require long term monitoring²⁴. AIDS has thus acquired a status of chronic illness^{24, 25}.

It is important to integrate palliative care in management of AIDS patients, as there is evidence of high prevalence of pain and symptom burden in these patients²⁸.

Harding, Gwyther and Mwangi-Powell noted that of the 4384 abstracts presented at the AIDS Society Conference in Toronto, pain and symptom burden was highlighted by at least 47 of the papers, however, how or whether these symptoms were managed was not addressed³².

Palliative care is complementary to disease specific care, which in the case of HIV is provision of antiretroviral therapy. It is therefore important to have palliative care as part of the comprehensive continuum of care.

Most AIDS patients present late to health facilities in South Africa, and these patients need both disease specific care and palliative care. Palliative care has also been found to improve pain and symptom control in AIDS patients^{33, 34}.

Palliative care should be available at every step in the management of AIDS patients. Access to palliative care should not be withheld until the patient is dying, or when curative therapy will no longer benefit the patient.

In the assessment of the availability of end of life care services in Sub Sahara Africa, Harding et al highlighted that pain control is one of the major challenges in end of life care³⁵. Because of the magnitude of the HIV pandemic in Africa, available services should be able to cater for most of those in need, and palliative care should not be provided as high quality service for only a few patients³⁵.

According to WHO recommendations, palliative care can be provided at different levels of care; in the hospital, outpatient, community, AIDS clinic or as home based care services^{28, 29}. In the ideal situation, palliative care specialist would be available for consultation at AIDS clinics and wherever AIDS patients are being treated.

The Gauteng Health Department in South Africa has incorporated palliative care as part of the HIV and AIDS, TB and STI directorate³⁶. For the first time in South Africa, palliative care has been accepted as part of the comprehensive care for patients facing life threatening illnesses in the public sector.

1.2.1 Pain in HIV

Pain has been defined by the International Association for the study of Pain as an “unpleasant sensory and emotional experience associated with actual or potential

tissue damage”³⁷. Pain is a subjective experience describing patient perceptions. A number of factors are believed to modulate this: mood of the patient, the morale, and what the pain means to the patient.

“Pain is what the patient describes, not what others think it ought to be”³⁸.

Pain in HIV/AIDS is under diagnosed and undertreated^{9, 10, 11}. Reasons for this include inadequate knowledge about pain and its management, fear of side effects, lack of access to pain specialists, reluctance to report pain by patients, and myths about opioid addiction^{39, 40}.

When opioids are given for chronic pain, addiction has been found to be rare, as pain stimulates respiration and is an antagonist for opioid induced respiratory depression^{41, 42, 43, 44}.

Causes of pain in AIDS patients are multiple. In most cases if these are identified they can be treated by treating the underlying cause.

Pathological pain can be divided into three broad categories⁴⁵:

1. **Nociceptive pain** results from nociceptive fibre stimulation from any cause.

Nociceptive fibres are divided into two:

- **Somatic**- which are found in skin, soft tissue and bone
- **Visceral**- which are found in internal organs like stomach or colon.

These are highly opioid sensitive, but depending on the mechanism of pain, can be treated with other drugs e.g. adjuvants.

2. **Neuropathic pain** usually results from nervous tissue damage or dysfunction.

Example: Nerve compression, infiltration by cancer or physical damage to nerves. The International Association for the study of Pain defines neuropathic pain as “pain initiated or caused by a primary lesion or dysfunction of the nervous system”³⁷.

3. **Psychogenic pain** results from psychological factors. This pain does not respond to analgesics.

Pain in HIV/AIDS patient can be caused by a number of conditions, some of which are mentioned below³⁰:

1. Opportunistic infections and malignancies associated with AIDS: e.g. oesophageal candidiasis, aphthous ulcers, headache, herpetic neuralgia
2. HIV effects on the body: e.g. distal peripheral neuropathy, HIV encephalopathy

3. Medication, both ARV and others: e.g. distal peripheral neuropathy related to antimycobacterials and didanosine; zidovudine-related headache, radiation
4. Pain due to co-morbidities (not HIV/AIDS related): e.g. diabetic neuropathy, bed sores, arthralgia, colic pain due to constipation

Managing pain in AIDS patients begins with the understanding of the causes, the mechanism of pain, and factors which can modulate pain in these patients. It is important to deal with total pain as described by Dame Cecily Saunders; “physical, social, psychological and spiritual” aspects^{30, 45}. A study revealed that when managing patients, it is important to understand their cultural background, as culture influences their perception of major needs; e.g. patients in Kenya were more worried about their physical and social pain when dying, while patients in the UK were more worried about their psychosocial and spiritual pain⁴⁶.

The principles of managing pain are the same for AIDS and cancer patients, as the pain in both is considered to be chronic. The principles of the WHO pain ladder have to be followed in both conditions.

Pain can be managed in a way that the majority of patients can be free from pain at all times. In most cases, anticipation and proper examination will lead the health professional to the cause of the pain, and appropriate medication and intervention can be offered.

Patients present at different health facilities with opportunistic infections and other diseases, which require treatment from health professionals. The need for continuous training in managing diseases associated with AIDS is evident, with the aim of improving the quality of care and the quality of life of the patients.

1.2.2 Management of chronic pain

The following principles apply in managing chronic pain:

Pain has to be managed in totality²⁸

- By the mouth: oral route is the preferred route for giving medication
- By the clock: pain control has to be sustained, thus medication has to be given to ensure sustained levels which control the pain, not as required

- By the patient: when the decision is made to give certain medications, one needs to ensure that the patient is pain free. It is thus important to continuously monitor the patient's response to medication.
- By the ladder: the WHO pain ladder principles have to be followed.

The following approach may be applied when managing patients in palliative care

1. Treat reversible causes
2. Non pharmacological management
 - a. Psychotherapy
 - b. Treat any psychological problems
 - c. Relaxation techniques
 - d. Physiotherapy
 - e. Address or refer for any social challenges
3. Pharmacological Management

WHO pain ladder

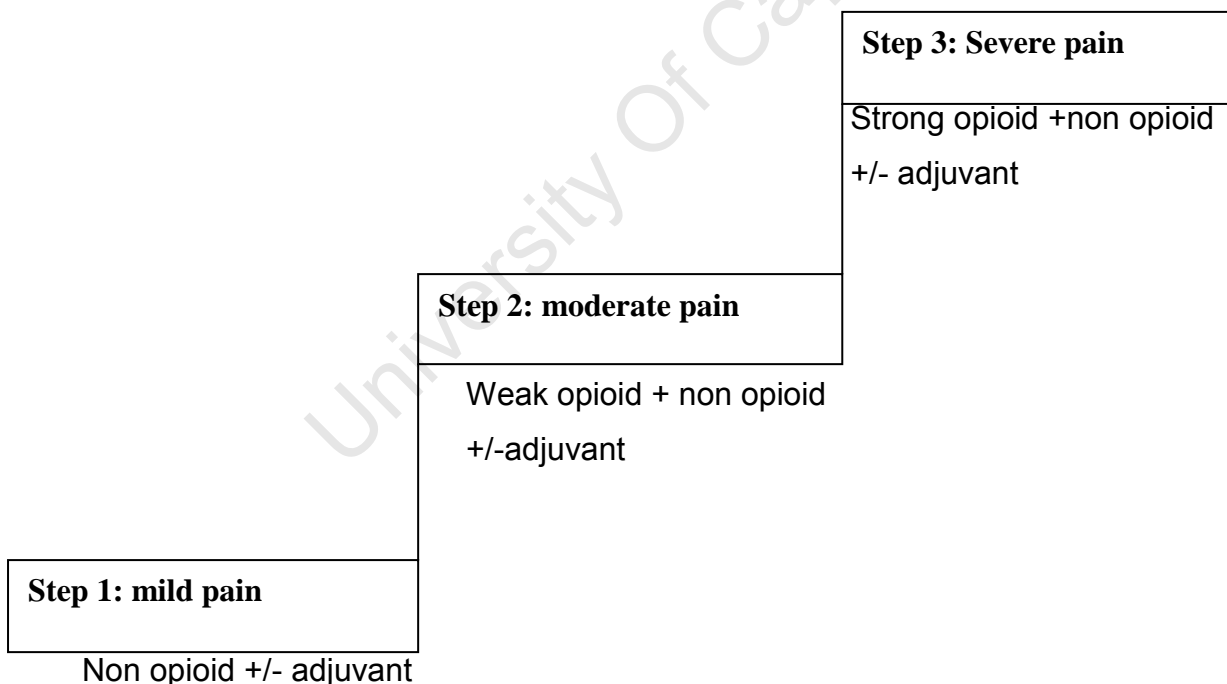


Figure 1. 1: WHO pain ladder²⁸ (adapted from WHO)

Drugs to be used:

Paracetamol 500mg-1000mg qid

NSAIDS: brufen 200-400mg tds; or diclofenac 25-50mg tds

Opiods: Opiods analgesics bind to receptors (μ) in the body to cause pain relief.

Weak opioids: codeine, tramadol

Strong opioids: morphine, fentanyl

Adjuvants: Adjuvant analgesics are drugs which are added to an opioid to enhance pain relief provided by the opioid, to address pain that has insufficiently responded to the analgesic

1.2.3 Management of neuropathic pain

Neuropathic pain in HIV has to be managed along the same principles as other chronic pain, by following the WHO pain ladder^{28, 45}. Adjuvant drugs, like tricyclic antidepressants and anticonvulsants are the most commonly used drugs for treating neuropathic pain^{45,46}. Most of the trials for neuropathic pain have concentrated on diabetic neuropathy and herpetic neuralgia, with very few trials done on HIV neuropathy⁴⁶.

1.3 PALLIATIVE CARE SERVICES IN AFRICA

The development of palliative care in Africa has lagged behind the rest of the world.

Wright and Clark described hospice and palliative care services across Africa⁴⁷.

They categorized the services into four:

1. Countries where there were no hospice or palliative care services at all; these included Angola, Sudan, Mali, Guinea, Gabon, Somalia
2. Countries where there was capacity building on hospice and palliative care; Algeria, Democratic Republic of Congo, Namibia, Mozambique
3. Countries where there was localized hospice and palliative care services; Botswana, Nigeria, Zambia, Tanzania
4. Countries where there is integration of hospice and palliative care services with the Country Ministries of Health; Uganda, South Africa, Kenya, Zimbabwe.

1.3.1 Palliative Care Services in South Africa

According to the WHO, three interrelated processes are important in the development and implementation of a successful palliative care program²⁸:

1. National policy: If a government is committed to providing a palliative care programme, it is important that a palliative care policy is developed. This however has to be followed by political, leadership and financial commitment. In South Africa, access to palliative care is a right for all patients according to

the Patients Rights Charter developed by the South African Department of Health⁴⁸. The South African National Department of Health recognizes that palliative care is an important part of the health system. This has been shown by the development of the National Palliative Care Guidelines in 2003. The National HIV and AIDS National Strategic Plan (NSP) 2005-2009¹³ has set a target to have a palliative care center established in each province, and has committed to provide full coverage by 2009. Besides these initiatives, clear goals and implementation plan were never developed.

2. Education and training: In her paper "Partnerships in Palliative care Training", Gwyther explained the history of palliative care training in South Africa⁴⁹. According to Gwyther, most of the initial training was provided by the Hospice Association of South Africa, a nonprofit organization⁴⁹. Their training included hospice orientation program, volunteer training, community care giver training, nursing certificate training and palliative medicine training for doctors. Presently other training is being offered for undergraduate medical students and nurses by various institutions. The impact of these trainings on availability of palliative care has not yet been assessed.
3. Palliative care services are currently available throughout South Africa at Chris Hani Baragwanath Hospital, Johannesburg General Hospital, Helen Joseph Hospital, Pretoria Academic Hospital, Murchison Hospital, St Mary's Hospital, McCord's Hospital, Settlers Hospital and Stellenbosch Hospital.
4. Drug availability: The availability of pain and other palliative care drugs is a key component to the success of any palliative care program. Stanford studied the availability of palliative care drugs in a sub-district in South Africa⁵⁰. Her study revealed the following:

- Most of the pain medications are available at district level
- Packaging is not adequate for palliative care setting
- Nurses are restricted in prescribing some of the pain medication

Whether the drugs are prescribed to patients who require them is however not known. Uganda and Zimbabwe have progressed by increasing access to morphine by allowing palliative care nurse clinicians to prescribe opioids⁵¹.

For some time, hospices with membership of the Hospice Palliative Care Association of South Africa (HPCA) were the main organizations offering

palliative care in South Africa. HPCA is an NPO, with over seventy member organizations spread throughout South Africa and around 80 development sites⁵². The distribution of HPCA member hospices does not currently cover the whole of South Africa, and thus palliative care is not accessible to most South Africans. Recently, other Non Profit Organizations not HPCA members have included palliative care services as part of comprehensive care. This expansion of palliative care organizations as well as palliative care services within government hospitals has improved access to palliative care for SA communities⁴⁷

Services offered by hospices include the following among others:

1. in-patient or hospital care
2. Home based care
3. Community outreach services
4. Training of professionals

Wits Palliative Care, an affiliate of the Wits Health Consortium, developed a model of public health palliative care in Gauteng province, South Africa⁵³. The aim of the “N’doro project”, as it was known, was to ensure that palliative care is made accessible to communities who previously could not benefit from these services through a programme which would be sustainable⁵³.

The N’doro project was adopted by the Gauteng Department of Health as best practice for palliative care in 2007. The organization provides both hospital and community palliative care services to the communities in Gauteng. This model has ensured that the services are sustainable, as they are government funded. Wits Palliative Care is also part of the Wits University Medical School, providing training to General Entry Medical Program student³⁶.

In 2002, Palliative care trainers who met in Cape Town, South Africa, identified key challenges in the provision of palliative care in Africa. The following declarations were then put forward⁵⁴:

- Palliative care is a right for all patients with life threatening illnesses, and should be part of the national health strategy. This will ensure that access to these services is available to all who require palliative care.

- Pain and symptom control as a human right, thus palliative care drugs, including morphine, should be easily accessible to all.
- Training of those who are involved in health care delivery on palliative care is essential. This should include community care workers.
- Palliative care should be provided at all levels of care; community, primary level, district level, secondary and tertiary⁵⁴.

Progress has been made regarding the following in South Africa:

1. Training has expanded to medical schools who offer undergraduates palliative care training; the University of Cape Town offers postgraduate training for qualified doctors, while HPCA has training available to nurses and other categories through member hospices. More training is however still required to enable health professionals to have an understanding of principles of palliative care.
2. Palliative care services are provided in hospitals across South Africa; Chris Hani Baragwanath Hospital, Johannesburg General Hospital, Helen Joseph Hospital, Pretoria Academic Hospital, Murchison Hospital, St Mary's Hospital, McCord's Hospital, Settlers Hospital and Stellenbosch Hospital

1.3.2 The importance of knowledge and skill in pain management in HIV/AIDS patients

The status of palliative care services in Africa and South Africa has been briefly explained above. It is evident that a lot still has to be done to improve access to pain relief and palliative care for those patients who require the services. It has also been highlighted that pain relief is a human right⁵⁵.

The importance of all health professionals who treat HIV/AIDS patients having appropriate knowledge and skill on managing pain in these patients is thus of public health importance.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter will review literature on the knowledge, attitude and practice of health professional relating to cancer and HIV/AIDS. Palliative care needs and the burden of symptom in HIV/AIDS is also described. The rationale of the study will be included to give a complete picture of why it was important to conduct the study.

Except for few studies, most of the literature reviewed is based on studies conducted internationally.

2.2 LITERATURE REVIEW

2.2.1 Palliative care and HIV/AIDS

According to the WHO, "Palliative care improves the quality of life of patients and families who face life-threatening illness, by providing pain and symptom relief, spiritual and psychosocial support to from diagnosis to the end of life and bereavement."²⁸

HIV palliative care is defined as "an essential component of comprehensive care for people living with HIV and AIDS, because of the variety of symptoms they experience such as pain, diarrhea, cough, shortness of breath, nausea, weakness, weakness, fatigue, fever and confusion"²⁹.

Some of the common symptoms experienced by HIV/AIDS patients include pain, nausea and vomiting, dyspnoea, fatigue, cough, diarrhoea and fever among others^{5, 7, 8, 29, and 30}. HIV/AIDS patients experience between 12.3 and 16.7 symptoms at any one time, depending on the stage of the disease^{7, 56}. The two studies however, were not similar; in Harding's study the population consisted of gay men in the United Kingdom, while the Vogl's study had a mixed population of male and female population. The CD4 count for the studies also differed significantly; in the Harding study the participants had a mean CD4 count of 459 cells/ml, while Vogl only included participants with CD4 of <200 cells/ml. Vogl did not explain whether some of the participants were on antiretroviral therapy or not. Selwyn in his editorial explains the importance of coordinating palliative and disease specific therapy, which

in the case of AIDS is antiretroviral therapy³¹. In a study by Peretti Watel et al where the opinion towards pain management and palliative care was compared between HIV specialist and oncologists, HIV specialists were of the opinion the palliative care should only be used in terminally ill patients, only after curative treatment has failed; Oncologist on the other hand would offer palliative care to all “non-terminal patients suffering from chronic illnesses”⁵⁷. Selwyn explains that palliative care is not supposed to be delayed until the patient is terminal, but implemented while the patient is on medication with the aim of improving the psychological well being of both the patient and the family, and the quality of life⁵⁹. The occurrence of pain increases as the disease progresses⁵⁹.

The introduction of HAART has improved both the mortality and morbidity and quality of life of AIDS patients^{24, 25}. The increased survival for HIV/AIDS patients has turned the disease into a chronic illness. HIV/AIDS patients who survive longer require more palliation because of the symptoms they experience, and due to HAART side effects and other complications⁵⁹. In their study to determine whether antiretroviral therapy is associated with symptom prevalence and burden, Harding et al found that HAART was associated with higher symptom prevalence in HIV/AIDS patients⁶⁰. According to Merriman et al, palliative care in HIV/AIDS consists of two components; pain control and supportive care⁵¹. The role of palliative care in the era of HAART includes pain and symptom relief, terminal care and bereavement.

2.2.2 Pain in HIV/AIDS

Pain is one of the most common symptoms reported in HIV and AIDS patients^{1, 5, 7 8, 41, 45, 57, 61-65}. This is despite the fact that studies which described the symptoms vary in their study designs, sample size, population studied or period of study. Norval studied 103 WHO stage 4 AIDS patients in South Africa, and found that pain was present in 98% of patients⁵. In the same study, Norval revealed that patients have at least 3 types of pain at any one time⁵. Studies by Norval, Breitbart et al and Frich and Borgbjerg have all reported pain prevalence of 60-88% in HIV/AIDS patients^{5,11, 58}. In a systematic review comparing symptom prevalence between cancer and AIDS with other 3 non malignant diseases, Solano and Gomez found pain prevalence of 63-80% in AIDS patients from 9 AIDS studies which fulfilled their inclusion criteria⁶⁵. The studies involved a total of 942 patients. The studies however, differed in the methodologies used. The studies varied in sample size; data collection methods,

with some using hospital records while others interviewed patients and carers; study setting, some were conducted in the community, others in hospital while others were in a hospice. Pain in HIV/AIDS patients can be divided into physical, spiritual and psychogenic⁴⁵. Physical pain can be further divided into nociceptive and neuropathic.

Nociceptive pain, which occurs because of stimulation of nociceptive fibres, is divided into somatic and visceral pain. Neuropathic pain involves stimulation of nerve fibers due to damage or compression.

According to Breitbart and Selwyn, AIDS patients experience pain and symptoms because of the following^{30, 50}

1. HIV/AIDS disease processes and immunosuppression
2. Side effects to antiretroviral and other medication
3. Co morbidities as the disease becomes more of a chronic condition
4. Cancers associated with AIDS

HIV/AIDS patients experience different types of pain; nociceptive, neuropathic and psychogenic⁴⁵.

The ability to manage pain begins with the knowing of the patho-physiology of the different types of pain. As with cancer pain, the World Health Organization analgesic ladder approach is recommended for managing pain in HIV/AIDS^{28, 29}. As opportunistic infections are common in AIDS patients, treatment of these infections remains important in managing pain.

Neuropathic pain is present in 20-25% of AIDS patients^{66, 67, 68}. According to Hitchcock, 20.9% of patients have peripheral neuropathy before they start HAART. Neuropathic pain can be managed by applying the WHO pain ladder; however, neuropathic pain has been found to respond better to other drugs. Amitriptyline, gabapentin and pregabalin have been found to be effective in treating neuropathic pain due to diabetes and herpetic neuralgia⁶⁹⁻⁷²; however, some studies argue that amitriptyline is not effective in managing HIV peripheral neuropathy^{73, 75}.

Amitriptyline is however, still widely used for management of HIV peripheral neuropathy. In South Africa, amitriptyline is the drug commonly recommended for all types of neuropathic pain, as gabapentin and other drugs are expensive and not easily accessible to most patients⁷⁶.

Gabapentin, a newer anticonvulsant, has been shown not to be superior to amitriptyline, a tricyclic antidepressant⁶⁹. In another study comparing gabapentin

and morphine for treatment of neuropathic pain, gabapentin and morphine when given together had better effect in reducing pain at lower doses than each drug (gabapentin or morphine) on its own⁷⁷.

2.2.3 Factors influencing pain management in HIV/AIDS

Pain in HIV and AIDS has been reported by different studies as being under diagnosed and under treated^{9, 10, 11, 61}. Most patients (85%) who are diagnosed with pain receive inadequate analgesia¹¹. Breitbart conducted a study in 1996 in USA, looking at the under treatment of pain in AIDS patients; in this study, only 7.3% of patients with severe pain received strong opioids¹¹. This is despite the fact that WHO pain ladder has been recommended for almost two decades, and clinical trials have confirmed that opioids are effective in the management of pain in HIV and AIDS patients, that the use of opioids improves the quality of life, and that side effects can be managed^{29, 45, 78}.

Reasons for the reported under treatment of pain in both HIV/AIDS and cancer have been studied and the following having been cited as the most common^{4, 5, 40, 79}.

- Lack of knowledge on pain management by physicians.
- Inability of physicians to assess pain
- Reluctance of physicians to prescribe opioids
- Concern among physicians about addiction to opioids
- Concern among physicians about side effects of opioids by both physicians and patients

2.2.4 Knowledge, attitude, and practice in managing pain

The lack of knowledge on pain management, inappropriate attitudes and poor practices have been cited by different studies as factors influencing adequate pain management^{4, 40, 80}. This is despite the fact that the different studies used different methods of research to determine whether patients received adequate pain management. The methodologies used in the studies however were sound and the findings are valid. Comparing the different studies is difficult because of the following:

- The tools used are not similar.

- Population studied differed, with some studies including both nurses and doctors as respondents, while others only looked at physicians.
- How they determined the level of knowledge and attitude differed; for example Ger in Taiwan used 5 point Likert scale while Vincentin et al in Italy used yes/no response^{2, 4}.
- Results were presented differently- Vincentin, Zanolin, Levin presented percentage of total as results^{2, 3, 81}.
- Different words were used to describe whether the knowledge or attitude were good or not good enough; inadequate versus adequate knowledge⁴; less ideal knowledge versus ideal knowledge³; ideal attitude versus less ideal³; liberal attitude versus conservative⁸².

A number of themes can however be deduced from the studies; these are discussed below:

A number of studies identified the lack of knowledge about pain management, lack of access to pain specialist and fear of addiction as the major barriers to pain management by physicians^{40, 83}.

Differing views on whether oncologists have better knowledge compared to other physicians has been observed; in two different studies, Perretti-Watel et al in France in 2004 found that oncologists had what they regarded as ideal knowledge and more positive attitude when compared to family physicians⁵⁷, while during 2000 Ger in Taiwan found that anesthesiologists had better knowledge than oncologists⁴. In his study conducted in Israel in 1999, Sapir et al found no difference in the level of knowledge between oncologists and other physicians⁸⁰, while in 1999 Elliot et al in Minnesota found that physicians who specialized in Surgery, Internal Medicine and Oncology had deficient knowledge in cancer pain management⁸⁴.

In cancer pain studies conducted by Sapir in Israel and Ger in Taiwan in 2000 and 1999 respectively, doctors were found to have inadequate knowledge and negative attitude towards pain management and analgesic use in cancer patients^{4, 80}. In a different studies conducted by in 1999 by Breitbart in New York and Ger in Taiwan, and another by Sapir in Israel in 2000, the level of experience of doctors was found to be strongly associated with the identified barriers to AIDS pain management^{4, 40, 81}, with those who are more experienced less likely to endorse the identified barriers

to pain management, which included the reluctance of physicians to prescribe opioids, the lack of knowledge, lack of access to pain specialists, fear of addiction potential and the inability to assess pain have been identified as some of the major barriers to pain management. Scimeca et al at Mount Sinai hospital in 2000 found that the physician's attitude and values influenced how their skill and knowledge is applied⁸⁵.

In a study conducted in 2000 by Ger in Taiwan, for severe pain, more than 50% of physicians who had deficient knowledge in prescribing analgesics would prescribe meperidine, a mild opioid, instead of morphine⁴. In the same study, physicians also believed that meperidine had less side effects compared to morphine⁴. Fifty four of the doctors would also prescribe meperidine as needed, instead of by the clock as specified by the WHO pain ladder; and only if pain is severe and persistent would a strong opioid be prescribed four hourly as needed⁴.

In two different studies by Ger in Taiwan conducted in 2000 and Von Roenn et al of the Eastern Cooperative conducted in 1999, a significant number of doctors (25% and 86%) indicated that they would only use strong analgesics if the patient had less than 6 months to live, citing side effects and fear of tolerance as a reason^{4, 79}. In a similar study by Breitbart et al in New York in 1999, only 11% of physicians were comfortable with prescribing strong analgesics for pain only when necessary⁴⁰.

In 1986 Cleeland and Cleeland found that physicians who were classified as having a liberal attitude versus others classified as typical physicians were more likely not to regard the potential for addiction as a deterrent to prescribing opioids⁸², while Ger in a study conducted in 2000 in Taiwan found that a significant number of physicians believed that the reasons for a patient to request more analgesia is that they are experiencing more pain^{4, 82}.

Different studies report that physicians are reluctant to prescribe morphine to patients in severe pain because of fear of addiction^{3, 4, 40, 80, 81, and 82}.

Opiophobia which was first described by John Morgan is the "fear by health professionals of prescribing opioids for pain because of unfounded fears"⁸⁶.

Morphine has been shown by different studies not to contribute to addiction, and not to cause respiratory depression when given to patients with chronic severe pain^{42, 43, and 87}. Although knowledge and skill were important in the ability to manage pain in AIDS patients, in their study conducted at Mount Sinai hospital in 2000 Scimeca et al

discovered that the physician's attitudes and values influence how their skill and knowledge is applied⁸⁵.

In two studies comparing pain management in AIDS patients with and without a history of drug abuse conducted in 1997 and 2001, Breitbart et al found that those with a history of drug abuse were more likely to be inadequately treated compared to those without a history of drug abuse^{39, 83}.

Both Prater and Breitbart report that management of chronic pain is the same for patients with history of substance abuse and for those who have never used illicit drugs^{78, 83}. The aim of therapy should remain the same; complete pain relief after impeccable assessment. The choice of drug should be based on the severity of the pain, following the WHO pain ladder.

For patients with a history of substance abuse, higher doses of opioids are needed especially if the patient is on methadone maintenance therapy^{38, 45, 83, 88}. This is because of the physiological tolerance that some patients develop after prolonged use of opioids⁸⁵.

Studies conducted by Ferrell and Gilron found improvement in knowledge and attitude of participants after training on cancer pain management^{89, 90}. In the initial study conducted by Gilron, regulations had been identified as one of the barriers to effective pain management⁹⁰.

A number of studies indicate have proven that addiction is rare when opioids are given for chronic pain, as pain acts as a physiological antagonist for respiratory depression^{41, 42, 45}.

2.3 RATIONALE FOR THE STUDY

HIV/AIDS is affecting over 5 millions South Africans. Most of those who require ARVs are still not accessing treatment. Those who are on ARVs continue to experience pain and other symptoms which require palliation. Pain has been identified as one of the most common presenting symptoms in HIV/AIDS patients, and gets worse as the disease progresses. Pain in HIV/AIDS patients has been reported to be under diagnosed and undertreated^{9, 10, and 11}.

Pain management has been identified as a challenge over the years in cancer patients and also in HIV/AIDS patients. Neuropathic pain has been found to

affect 20-50% of HIV infected patients, with >90% of the patients experiencing pain^{66, 91, 92}.

The study was undertaken as a baseline line study to assess the status of knowledge, attitude and practices on pain management in doctors at PMHC.

This is part of a quality improvement project which aims at improving the quality of care for patients in the complex.

A study to assess the whether knowledge and attitude influences practice patterns has never been conducted in South Africa.

University Of Cape Town

CHAPTER 3

AIMS AND OBJECTIVES

3.1 INTRODUCTION

This chapter will highlight in brief the aims and the specific objectives of the study.

3.2 AIMS

The aim of the study is to establish the knowledge, attitudes and practices regarding pain and pain management in AIDS patients in Polokwane/Mankweng Hospital Complex, in Limpopo Province.

3.3 SPECIFIC OBJECTIVES

- i. To determine the level of knowledge of doctors in PMHC about pain in AIDS patients.
- ii. To determine the attitudes of doctors in PMHC regarding pain management in AIDS patients.
- iii. To determine their practice regarding prescribing analgesics for pain in AIDS patients.
- iv. To determine whether the level of knowledge and their attitudes affect their prescribing practice.

CHAPTER 4

METHODOLOGY

4.1 INTRODUCTION

This chapter describes the methodology used in the study; the type of study, study setting, sampling and data collection tools used in the study. The method used to validate the questionnaire will also be described.

The ethical issues, including how anonymity was maintained will be outlined. The last part of the chapter will cover how the data was analyzed.

4.2 STUDY METHODS

4.2.1 Study design

This was a descriptive Knowledge, Attitude and Practice (KAP) survey of doctors at Polokwane/Mankweng Hospital Complex. The theory behind KAP surveys is that individual practice is influenced by their knowledge and attitudes⁹⁴. Data was collected through a questionnaire distributed among doctors at both Polokwane and Mankweng hospitals.

4.2.2 Site

PMHC is complex of two hospitals; Polokwane hospital, and Mankweng hospital. Polokwane hospital is in Polokwane, the capital city of Limpopo Province, while Mankweng hospital is in Mankweng Township, forty kilometers from Polokwane. The complex offer primary and secondary services to the community of Capricon District; and secondary and tertiary services to the population of Limpopo. PMHC is thus the only tertiary hospital for all the population of Limpopo Province.

The hospital complex has a total of 1009 beds between the two hospitals; 511 for Polokwane and 498 for Mankweng hospital.

The complex employs over 200 doctors of all levels at any one time. The doctors are distributed and allocated to different departments between the two hospitals.

4.2.3 Target population

The target population was doctors in fulltime employment in the Department of Health and Social Development, Polokwane/Mankweng Hospital Complex (PMHC), Limpopo Province, South Africa.

4.2.4 Sampling

Convenience sampling was used to obtain the required sample. The Mortality and Morbidity meetings were chosen as places where doctors would be given questionnaires. All doctors who are on duty on a particular day are expected to attend departmental Mortality and Morbidity meetings, which are conducted weekly and compulsory. These meetings were chosen because most of the doctors in a particular department would be present. The questionnaire was distributed among all doctors who were present at Mortality and Morbidity meetings over a period of one week. The sample target of 125 doctors with allowance of 10-20% non response was allowed.

4.2.5 Data Collection tool

Process of developing the tool

The questionnaire was developed through a process of researching questionnaires which had previously been used for research of this type. Some of the questions were extracted from a questionnaire developed and validated by Fakrodeen⁹⁴ in her study on A KAP survey of pain management for advanced cancer patients among doctors in the Greater Durban area, while others were developed after extensive literature search^{2, 4} and discussed with fellow colleagues. Three of the questions were obtained from some of the validated tools used by other authors^{2, 4}:

- At what stage would you recommend morphine for severe pain in AIDS patients?
- What is the likelihood of developing addiction when giving morphine to a patient for pain?
- When a patient request increasing amounts of analgesics for pain, this usually indicates addiction, experiencing increased pain or depressed.

The question on the knowledge of the WHO pain ladder was specifically included to assess the level of knowledge of doctors on pain management. Doctors who had some knowledge of the WHO pain ladder would be assumed to have some knowledge on pain management.

The questions are designed to have an option of answers, with one correct answer among them. The correct answer was given a mark, with correct answers added up and compared with the total expected correct answers. One of the questions had a

yes/no answer, while another was open ended. The open ended answer was coded as yes for an answer which fits the description of the WHO pain ladder, while those to the contrary were no.

Eight question were used to assess the level of knowledge; seven to assess the practice pattern, and six to assess the level of attitude.

“Reliability is the extent to which the tool being used in research, which in this case is the questionnaire, is able to produce the same results if repeated”⁹⁵

“Validity refers to the degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure”⁹⁵.

Piloting

To address content and face validity, the questionnaire (Appendix III) was piloted among doctors who had undergone palliative care training at the University of Cape Town. These doctors are assumed to be knowledgeable on the subject in question. The questionnaire was distributed to 20 doctors and nine doctors returned the completed questionnaire. The results from the pilot confirmed that the questionnaire was appropriate for use in assessing the knowledge, attitudes and practices of the respondents.

The questionnaires were distributed during Morbidity and Mortality meetings of different departments. These meeting were chosen as they are compulsory for all doctors in a specific department, and most doctors on duty on a specific day would attend. All the doctors had an equal opportunity of participating in the study.

The instructions on the questionnaires were explained to the doctors, who were then instructed to return the completed questionnaire within two days of distribution.

4.2.6 Data collection

One hundred and twenty five questionnaires were distributed among doctors working in PMHC during the Morbidity and Mortality meetings. This method of distribution was chosen as most doctors in a specific department were likely to attend the meeting. Mortality and Morbidity meetings are compulsory for all doctors in the complex. The instructions were explained to the doctors before the questionnaires were distributed.

The participating doctors were requested to sign consent for participation. Follow up recalls were done during two subsequent Morbidity and Mortality meetings to improve the response rate.

The questionnaire covered the following:

- i. Category, which described whether the doctor was an intern, a community service doctor, a medical officer and a specialist
- ii. Years of experience
- iii. Area of specialization/work
- iv. Questions to assess the level knowledge about pain control in AIDS patients
- v. Questions to assess their attitude towards treating pain in AIDS patients and the use of analgesics
- vi. Questions to assess their practice regarding analgesic prescription and pain management

4.2.7 Exclusion criteria

- i. Doctors who were on leave, or not present in the meetings
- ii. Doctors who were not available for other reasons
- iii. Doctors who did not consent to being part of the study

4.3 ETHICAL CONSIDERATIONS

Ethical approval was obtained from the University of Cape Town Research Ethics Committee, as well as the Limpopo Department of Health and Social Services (Appendix IV and V).

Informed consent was obtained from participating doctors.

The signed consent forms were separated from the questionnaire and stored separately.

4.4 DATA ANALYSIS

Double data entry was done on an excel spreadsheet. The data was then cleaned using source document as reference. SPSS 15.0 and Stata 8.1 statistical packages were used for data analysis.

Data set was analyzed using summary statistics and is presented as frequency tables and graphs for the variables in order to determine the distribution of variables.

The relationship between the different key variables was explored using linear regression analysis; while correlation of different variable was explored using the one-way analysis of variance.

A p-value of less than 0.05 was used for the significance.

CHAPTER 5

RESULTS

5.1 INTRODUCTION

This chapter will give a complete description of the results obtained in the analysis. The response rate to the questionnaire will also be discussed.

5.2 RESPONSE RATE

A total of 150 questionnaires were printed and 125 distributed across different departments. Sixty five questionnaires were returned, resulting in a response rate of 52%.

5.3 CHARACTERISTICS OF THE SAMPLE

5.3.1 Categories of doctors at PMHC

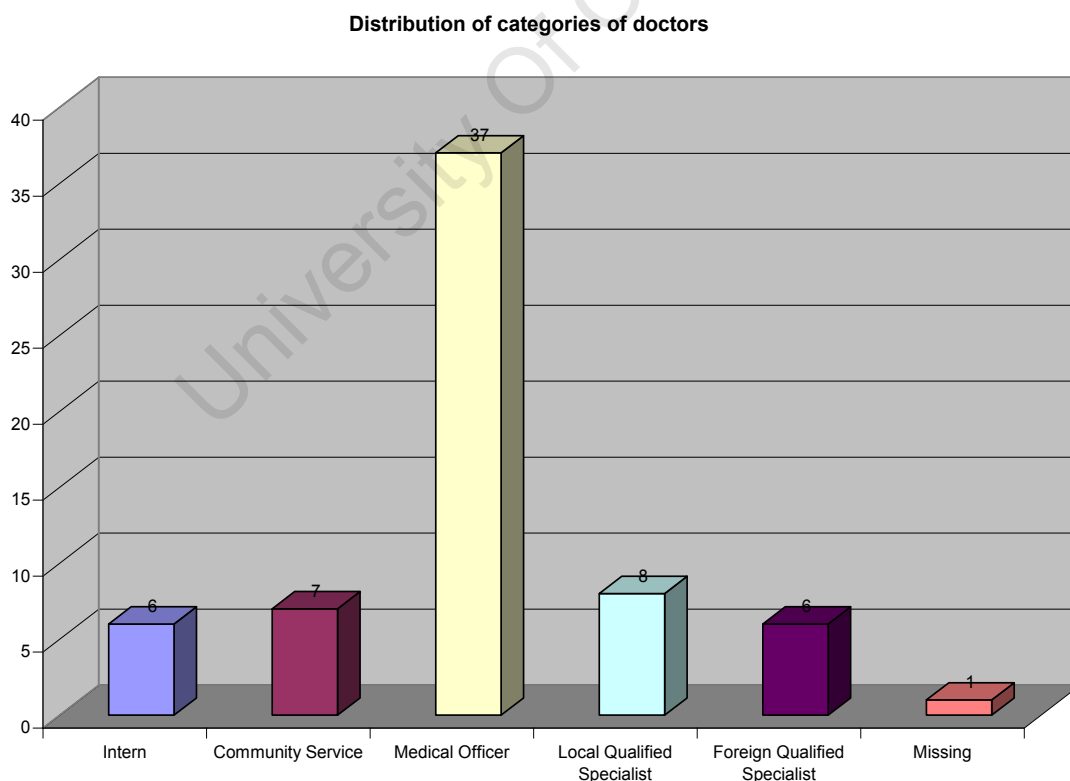


Fig 5.1 Bar graph of category distribution

A large proportion 37 (56.9%) of the doctors were medical officers, while 14 (21.5%) were specialists (Local specialists 12.3% and foreign specialists 9.2%). Community

Service doctors accounted for 10.8% of all the doctors. Figure 5.1 summarizes the different categories of doctors.

5.3.2 The field of practice for doctors at PMHC

Most of the doctors were from two major groups; surgical disciplines 19 (29.2%) and other 20 (30.8%). Surgical disciplines included general surgery, ophthalmology, orthopedics, neurosurgery, ear nose and throat and obstetrics and gynecology; while other included pediatrics, anesthesiology and psychiatry. Figure 5.2 depicts the distribution of the doctors by the field of practice.

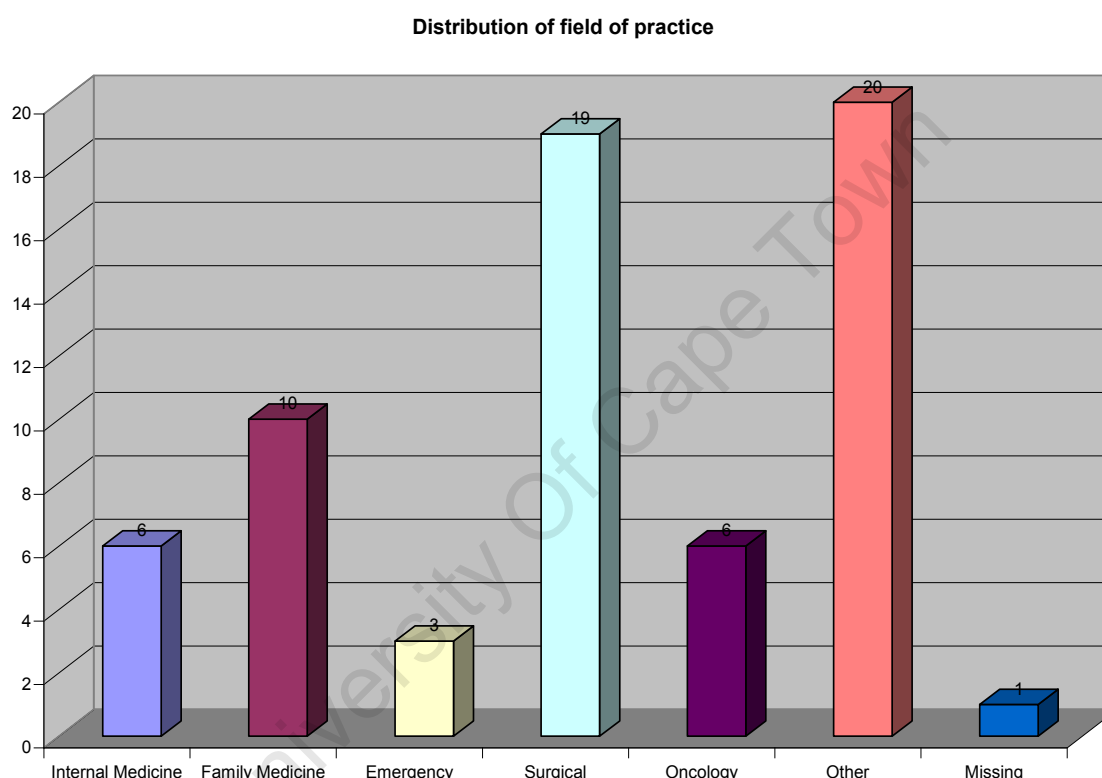


Figure 5.2 Bar graph of the field practice distribution.

5.3.3 Years of experience for doctors at PMHC

Of the 65 doctors, 22 (34%) of the doctors had more than 10 years of experience, while 17 (26%) had between 5 and 10 years of experience. Since 2006, interns in South Africa have to complete two years of supervised work. During 2007, interns were either in the first or second year of internship. Community Service doctors who had only one year of internship will have two years experience and will be Medical officers at the end of the second year.

The years of experience are depicted in Figure 5.3.

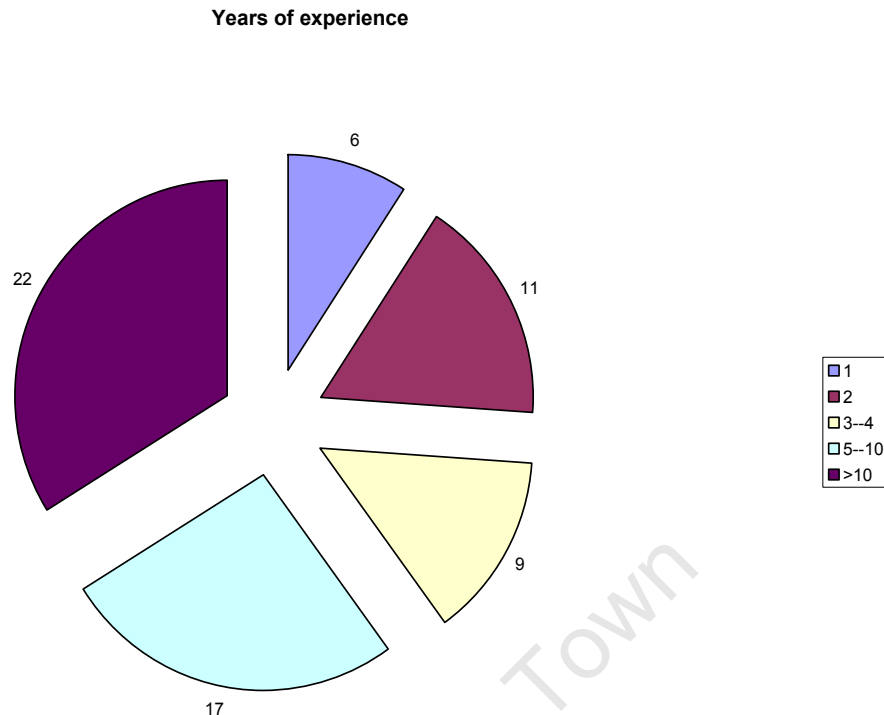


Figure 5.3: Pie chart indicating working experience

5.4. FREQUENCY TABLES FOR VARIABLES AND THEIR DESCRIPTION

5.4.1 Level of knowledge of doctors in PMHC

The level of knowledge was assessed using a total of eight questions. Table 5.1 gives a description of the answers to the questions. Most of the doctors are aware that pain is under diagnosed and undertreated. Only one third (32.3%) of the doctors were aware that all the listed conditions- diabetic neuropathy, AIDS related conditions, ARVs and antimycobacterials cause pain in HIV and AIDS patients. Diabetic neuropathy, though not AIDS related, is one of the co-morbidities which have to be excluded as a cause of pain. One of the major gaps in the knowledge concerned the WHO pain ladder. Only 23 (35.4%) of doctors confirmed having heard of the WHO pain ladder, with only fourteen (21.5%) doctors being able to describe the steps of the pain ladder correctly.

The level of knowledge was calculated by adding the correct answers and computing the percentage of total. These results are shown on Table 5.1. Only twenty two

doctors (33.8%) had a score of 62.5% or above; with twenty nine doctors (44.6%) scoring 37.5% or below. The mean score for level of knowledge is 46.92% (SD= 41.90-51.94).

Table 5.1 Frequency table of determining knowledge of doctors in PHMC

Variables		Frequencies	Percentage
1. The following drugs are used for treatment of neuropathic pain	NSAIDS	4	6.2
	Amitriptyline	23	35.4
	Anticonvulsants	11	16.9
	Panado	24	36.9
	Missing	3	4.6
	Total	65	100.0
2. Which statement is true?	Most AIDS patients receive adequate pain treatment	4	6.2
	AIDS patients receive more pain medication than necessary	3	4.6
	Majority of AIDS patients are undertreated for pain	27	41.5
	In the majority of AIDS patients, pain is under diagnosed	27	41.5
	missing	4	6.2
	Total	65	100.0
3. Morphine causes	Physical dependence	16	24.6
	Psychological dependence	15	23.1
	Constipation	26	40.0
	None of the above	2	3.1
	Missing	6	9.2
	Total	65	100.0
4. According to your experience, what % of AIDS patients experiences pain	10-35	9	13.8
	36-55	17	26.2
	56-70	16	24.6
	71-90	12	18.5
	91-100	10	15.4

	missing	1	1.5
	Total	65	100.0
5. Pain in AIDS patients is due to the following	AIDS related conditions	36	55.4
	Diabetic neuropathy	2	3.1
	ARVs	1	1.5
	All of the above	21	32.3
	Antimycobacterials	0	0
	missing	5	7.7
	Total	65	100.0
6. According to your experience, pain in AIDS patients can be managed by	paracetamol	2	3.1
	NSAIDS	6	9.2
	Amitriptyline	3	4.6
	Morphine	2	3.1
	All of the above	50	76.9
	missing	2	3.1
	Total	65	100.0
7. Are you familiar with the WHO ladder for pain management	Yes	23	35.4
	No	37	56.9
	Missing	5	7.7
	Total	65	100.0
8. If yes, can you list the steps	Know	14	21.5
	Not	49	75.4
	Missing	2	3.1
	Total	65	100.0

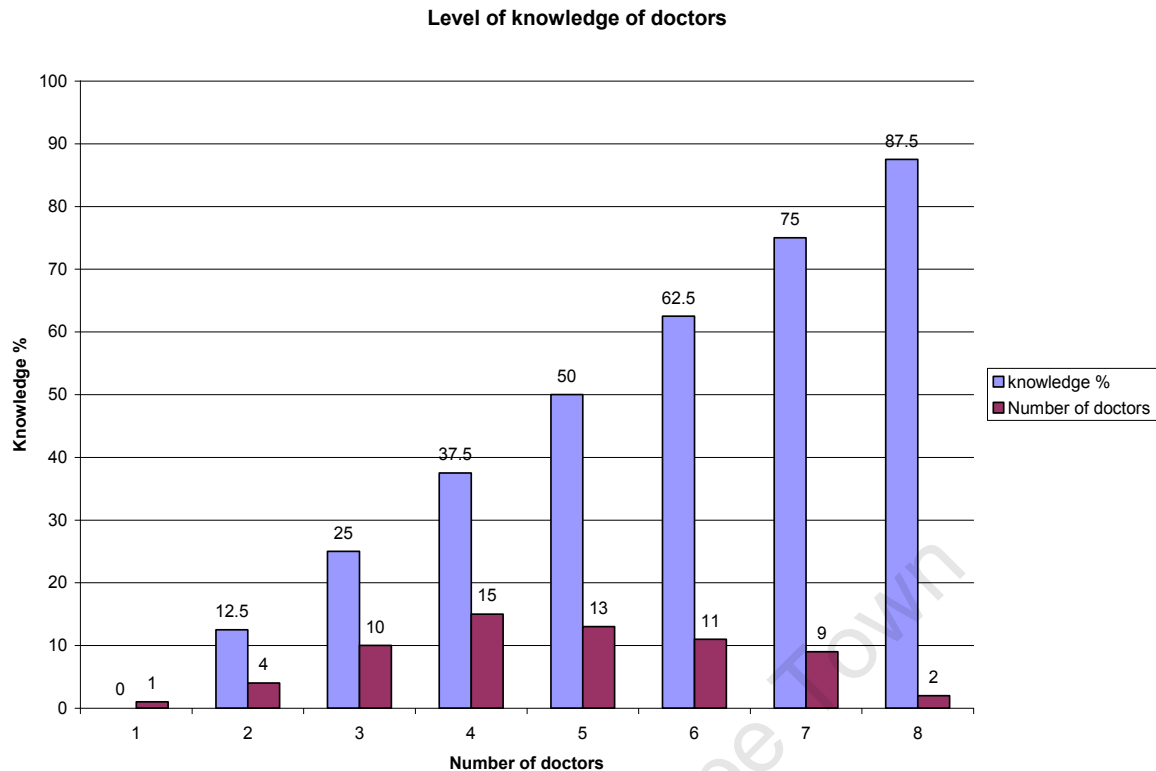


Figure 5.4: Bar Chart displaying the level of knowledge of doctors at PMHC

Analysis of variance was used to evaluate if the level of knowledge is influenced by category of doctors, the field of practice and the years in practice.

Table 5.2 Comparison of knowledge by category (p=0.1970)

Category	Mean	Std deviation	Frequency
Community Service	33.92	9.44	7
Foreign Specialists	43.75	30.36	6
Interns	58.33	17.07	6
Local Specialists	51.56	22.59	8
Medical Officer	46.28	19.06	37
Missing	75	-	1
Total	46.92	20.25	65

There was no significant difference in the level of knowledge between the different categories of doctors (Table 5.2; p=0.1970). Though not statistically significant,

Community Service doctors had the lowest level of knowledge (33.92%; SD=9.44), while interns had the highest (58.33%; SD=17.07). There was no difference in the level of knowledge when compared by field of practice ($p=0.6493$). See Table 5.3.

Table 5. 3 Comparison of knowledge by field of practice ($p=0.6493$)

Field of practice	Mean	Std deviation	Frequency
Emergency	58.33	19.09	3
Family Medicine	50.00	15.59	10
Internal Medicine	56.25	20.53	6
Oncology	52.08	24.25	6
Other	43.12	23.46	20
Surgical	43.42	18.33	19
Missing	37.5	-	1
Total	46.92	20.25	65

The group “other” (Psychiatry, pediatrics and anesthesiology) however, had the lowest mean score (43.12%, SD=23.46). Emergency Medicine had the highest mean score (58.33%, SD=19.09).

When compared by years of practice, the level of knowledge was not significantly different between the different groups (Table 5.4); ($p=0.9423$). Those with 3 years of experience a higher knowledge mean score (51.38%, SD=15.86).

Table 5.4 Comparison of knowledge by years of practice ($p=0.9423$)

Years of practice	Mean	Std deviation	Frequency
1	43.75	17.23	6
2	44.31	21.91	11
3-4	51.38	15.86	9
5-10	47.79	14.81	17
>10	46.59	25.92	22

Total	46.92	20.25	65
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5.4.2 Attitude of doctors at PMHC

Table 5.5 Frequency table of determining the attitudes of doctors at PMHC

Variables		Frequencies	Percentage
1. The best judge of pain in AIDS patients is	Physician	5	7.7
	Family	1	1.5
	Patient	58	89.2
	missing	1	1.5
	Total	65	100.0
2. The most likely reason why the patient would request increasing doses of pain medication is	The patient is experiencing more pain	43	66.2
	The patient is addicted	10	15.4
	The patient is depressed	8	12.3
	The patient is requesting more attention from staff	3	4.6
	Missing	1	1.5
	Total	65	100.0
3. At what stage would you recommend morphine for severe pain in AIDS patients	Never	3	4.6
	When prognosis is less than 3 months	10	15.4
	At any time when the pain is severe	51	78.5
	Missing	1	1.5
	Total	65	100.0
4. Why would you not recommend morphine to patients	Because it is addictive	13	20.0
	Because it has a lot of side effects	10	15.4
	Because there are legislative restrictions	2	3.1
	I will recommend morphine for severe pain	38	58.5
	Missing	2	3.1
	Total	65	100.0
5. Do you believe that the management of pain in HIV and	Major problem	45	69.2
	Somewhat a problem	18	27.7
	Not a problem	2	3.1
		65	100.0

AIDS patients is a problem	Total		
6. In your opinion, the likelihood of developing addiction to morphine in AIDS is	High	20	30.8
	Moderate	24	36.9
	Low	17	26.2
	None of the above	2	3.1
	Missing	2	3.1
	Total	65	100.0

Table 5.5 gives a description of how the doctors responded to the questions describing the attitude. Six questions were used for the assessment of attitude. The level of attitude was determined by adding up the answers and calculating a percentage out of the total of six questions (Figure 5.5). Forty one doctors (63%), have at least 4 out of a total of 6 answers correct, resulting in 66.7% level of attitude. Only seven doctors (10.8%) of the doctors had the preferred attitude, with all answers correct (100%). The mean score for attitude was 64.61% (SD= 59.03-70.19).

More than two thirds believe that the likelihood for addiction to morphine when given to AIDS patients for pain is moderate or high (30.8% and 36.9% for moderate and high respectively). Almost all the doctors 58 (89.2%), believe that the patient is the best judge of the pain. Fifty one of the doctors (78.5%) will prescribe morphine at any time when the pain is severe, while 43 (66.2%) believe that the main reason why a patient requests increasing doses of medications is because they are experiencing more pain.

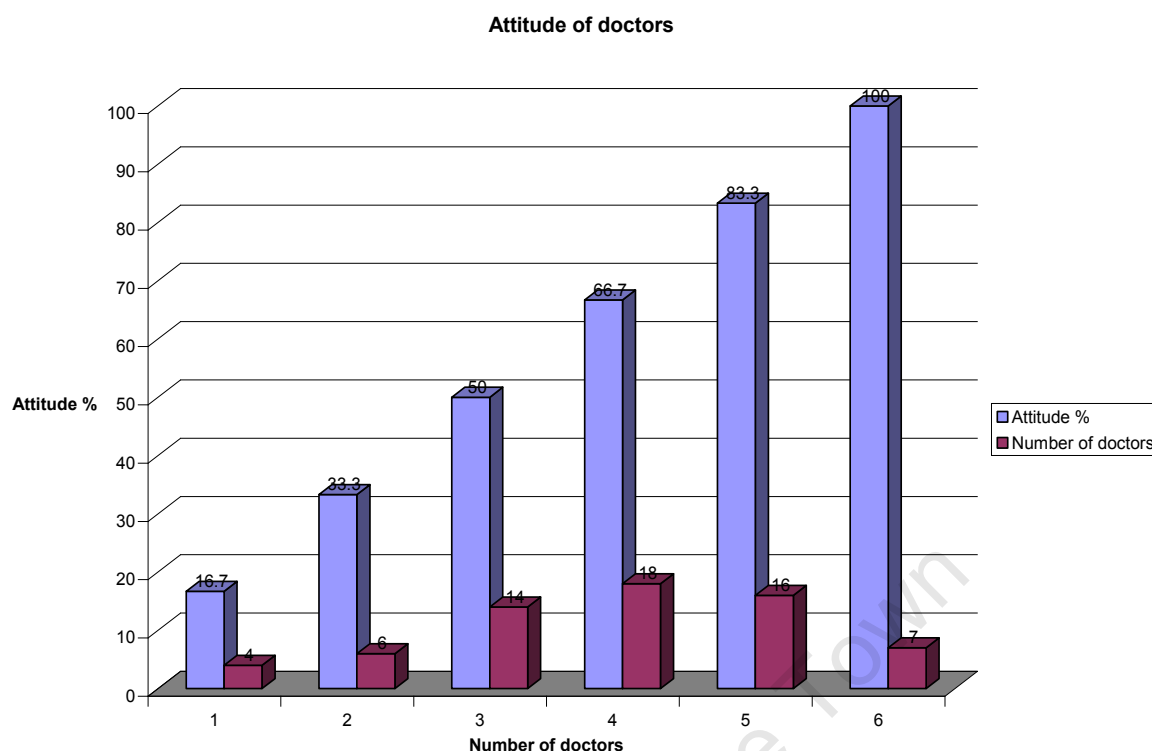


Figure 5.5: Bar Chart displaying the level of attitude of doctors at PMHC

The level of attitude was compared by category, field of practice and years of practice. There was no significant difference in the attitudes by category ($p=0.2487$), but community service doctors had the lowest mean score (52.39%, $SD=17.81$), with interns having the highest (80.55%, $SD=19.47$). This is depicted in Table 5.6.

Table 5.7 describes the comparison of attitude by field of practice. Oncologist had the highest attitude level (77.76%, $SD=17.20$), followed by Family Medicine doctors (73.33%, $SD=17.90$). Doctors from the “Other” group had the lowest mean score (58.33%, $SD=21.97$). There was however no significant difference among the different fields of practice ($p=0.3524$).

There was no significant difference between the attitude for different years of practice ($p=0.4178$) (Table 5.8). Doctors with the least experience however, had the highest mean score for attitude (77.78%, $SD=20.17$) and those with two years having the lowest mean score (57.58%, $SD=27.23$).

Table 5.6 Comparison of attitude by category (p=0.412)

Category	Mean	Std deviation	Frequency
COMMUNITY SERVICE DOCTOR	52.39	17.81	7
Foreign Specialists	69.44	22.15	6
Interns	80.55	19.47	6
Local Specialists	70.82	24.80	8
Medical Officer	62.61	22.69	37
Missing	50.00	-	1
Total	64.61	22.53	65

Table 5.7 Comparison of attitude by field of practice (p=0.3524)

Field of practice	Mean	Std deviation	Frequency
Missing	66.69	-	1
Emergency	66.66	33.35	3
Family Medicine	73.33	17.90	10
Internal Medicine	72.21	20.17	6
Oncology	77.76	17.20	6
Other	58.33	21.97	20
Surgical	59.64	25.02	19
Total	64.61	22.53	65

Table 5.8 Comparison of attitude by years of practice (p=0.4178)

Years of practice	Mean	Std deviation	Frequency
1	77.78	20.17	6
2	57.58	27.23	11
3-4	62.95	18.20	9
5-10	68.62	20.31	17
>10	62.12	23.66	22
Total	64.61	22.53	65

5.4.3 Practice patterns of doctors at PMHC

The practice patterns of the doctors were computed using seven questions. Two thirds of the doctors (61.5%) were aware that the best route for administering morphine is orally, while 48 (73.8%) would prescribe morphine at any time in the illness when pain is severe. However only 8 doctors (12.3%) would prescribe an opioid for moderate pain; even though 54 (83.1%) acknowledged that the aim of pharmacological intervention is complete pain relief. Sixteen (24.6%) doctors would actively ask the patients whether they experience pain, while 18 (27.7%) would rely on the patient to report pain.

Most of the doctors will not prescribe laxatives routinely when morphine is prescribed versus 10 (15.4%) who would prescribe laxatives routinely. The responses are shown in Table 5.9.

Practice pattern levels are shown in figure 5.6. The practice pattern is calculated by adding the correct answers and showing them as percentage total. Only twelve doctors (18.5%) had practice pattern levels of 71.4% and above. Thirty six doctors (55.4%) had score of 42.8% or less. The mean score for practice pattern is 47.66% (SD=42.65-52.67).

Table 5.9 Frequency table to determine their practice patterns regarding prescribing analgesics

Variables		Frequencies	Percentage
1. When assessing an AIDS patient, do you ask the patient whether they experience pain?	Sometimes	19	29.2
	Always	16	24.6
	Wait for patient to report pain	18	27.7
	Do not actively enquire about pain	11	16.9
	Missing	1	1.5
	Total	65	100.0
2. The best route for	Oral	40	61.5

	Subcutaneous	3	4.6
	IV	12	18.5
	IM	6	9.2
	Missing	4	6.2
	Total	65	100.0
3. When giving morphine for chronic pain,	Advisable not prescribe other drugs	5	7.7
	Laxative should be prescribed	10	15.4
	Laxatives should be prescribed only if constipation develops	35	53.8
	It is not necessary to prescribe a laxative	7	10.8
	Missing	8	12.3
	Total	65	100.0
4. For moderate pain management I will	Always prescribe an opioid	8	12.3
	Only prescribe paracetamol and NSAIDS	52	80.0
	Don't know	1	1.5
	Missing	4	6.2
	Total	65	100.0
5. I will prescribe morphine to patients	When pain gets severe at any time of the illness	48	73.8
	Only when the patient is terminal	13	20.0
	Missing	4	6.2
	Total	65	100.0
6. The aim of pharmacological intervention is	Partial pain relief	1	1.5
	Complete pain relief	54	83.1
	Moderate pain relief	7	10.8
	Missing	3	4.6
	Total	65	100.0
7. In managing severe			
	Always use adjuvants	40	61.5

	Find it not necessary to prescribe an adjuvant	10	15.4
	Don't know	10	15.4
	Missing	5	7.7
	Total	65	100

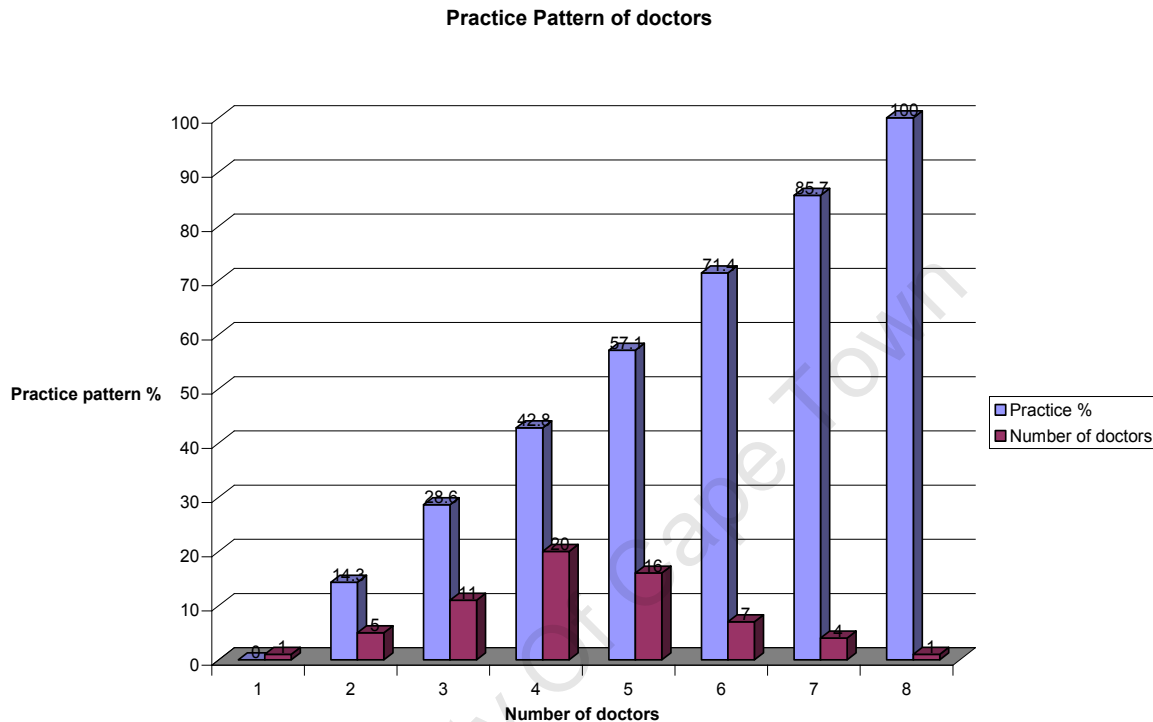


Figure 5.6: Bar Chart displaying levels of prescribing patterns of doctors at PMHC

Comparison of practice patterns was done for category, field of practice and years of practice. The practice of doctors differed significantly when compared between different categories ($p=0.0327$). Medical officers had the lowest level of practice (41.29%; SD=19.55); while local specialists had the highest (62.47%; SD=22.83). The practice pattern was also significantly different when compared by field of practice ($p=0.0171$). Oncologists had the highest mean score (73.78%; SD= 10.76) compared to “other” doctors, surgical doctors and Family Medicine doctors (42.10%, SD= 16.35; 43.58%, SD= 17.45; and 42.83%, SD=20.18 respectively). There was no difference in the practice pattern when compared by years in practice

($p=0.1508$). The results are shown in Table 5.10, Table 5.11 and Table 5.12 respectively.

Table 5.10 Comparison of practice pattern by category ($p=0.0327$)

Category	Mean	Std deviation	Frequency
Missing	57.09	-	1
Community Service Doctor	44.85	15.25	7
Foreign Specialists	59.48	16.71	6
Interns	57.09	15.66	6
Local Specialists	62.47	22.83	8
Medical Officer	41.29	19.55	37
Total	47.66	20.23	65

Table 5.11 Comparison of practice pattern by field of practice ($p=0.0171$)

Field of practice	Mean	Std deviation	Frequency
Missing	57.09	-	1
Emergency	52.36	43.64	3
Family medicine	42.83	20.18	10
Internal Medicine	57.11	18.05	6
Oncology	73.78	10.76	6
Other	42.10	16.35	20
Surgical	43.58	17.45	19
Total	47.66	20.23	65

Table 5.12 Comparison of practice pattern by years of practice ($p=0.1508$)

Years of practice	Mean	Std deviation	Frequency
1	54.73	18.97	6
2	37.62	19.43	11
3-4	45.99	19.90	9
5-10	43.67	19.84	17
>10	54.52	20.01	22
Total	47.66	20.23	65

5.4.4 Correlations between variables

Linear regression analysis was used to assess whether there was any relationship between knowledge, attitude and practice patterns. The level of significance was set as $p=0.05$.

Knowledge was found to have a positive relationship with attitude ($r^2=18.9\%$; $p=0.0003$); and practice ($r^2=15.8\%$; $p=0.0010$).

The attitude of the doctors was also found to influence practice patterns ($r^2=19.1\%$; $p=0.0003$).

When the different questions (variables) were correlated, some were found to be significantly correlated.

The knowledge of the WHO pain ladder was significantly correlated with the following:

- i. Knowledge of drugs for managing neuropathic pain ($r^2=42\%$; $p=0.0001$)
- ii. The best route of administering morphine being oral ($r^2=31\%$; $p=0.010$)
- iii. Management of moderate pain with opioids ($r^2=42\%$; $p=0.0001$)
- iv. Knowledge of always prescribing laxatives when prescribing opioids ($r^2=40\%$; $p=0.0001$)
- v. Knowledge that morphine can be prescribed at any time when pain is severe ($r^2=39\%$; $p=0.001$)
- vi. Knowing that the aim of pharmacological management is complete pain relief ($r^2=40\%$; $p=0.0001$)
- vii. The practice of prescribing adjuvants with other pain medication ($r^2=27\%$; $p=0.0001$)

Analysis of variance was used to assess whether the different category of doctors differed in the way they responded to the different questions.

The different categories were different in the way they would assess a patient. Foreign specialists were more likely to always enquire about pain compared to interns ($p=0.002$), community service doctors ($p=0.013$) and medical officers ($p=0.004$). Local specialist were also more likely to always enquire about pain compared to interns ($p=0.026$) and medical officers ($p=0.013$).

When looking at the influence of the field of practice, doctors in Oncology were more likely than doctors in surgery to know about the WHO pain ladder ($p=0.022$), but their response was not different from other specialties.

There was no relationship between the field of practice and other variables, as well as years of practice and other variables.

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CHAPTER 6

DISCUSSION

6.1 INTRODUCTION

This chapter will focus on the discussions around the findings, and comparing these with results from previous studies. The level of knowledge, attitude and practice will be discussed and compared to previous similar studies. Specific knowledge, attitude and practice deficits according to the questions asked will be compared to previous similar studies. The other relationship which will be discussed is the one between knowledge, attitude and practice.

The relationship between the characteristics of the sample and the different variables will be looked at, as well as the outcome of the correlation between the different variable. Sometimes the line between knowledge, attitude and practice may be quite thin; questions in this study were developed to address particular problems in the South African context.

6.2 RESPONSE RATE OF PARTICIPANTS

One hundred and twenty five questionnaires were distributed. Sixty five questionnaires were returned. The response rate for the study was 52 % (N=65), which is similar to the study by Ger in Taiwan (57%)⁴. Perreti-Watel et al in France and Elliot et al obtained higher response rates; 79.5% and 87% respectively, however, their studies used telephonic survey method^{57, 84}.

6.3 CHARACTERISTICS OF THE SAMPLE (DEMOGRAPHIC VARIABLES)

The study sample is described by the type of category, the years of experience, and the field where they are practicing.

6.3.1 Category of doctors at PMHC

Medical officers form the majority of the doctors (56.9%) who participated in the study. Specialists, both local and foreign account for 21.5% of the sample.

6.3.2 Years of experience of doctors at PMHC

The majority of the doctors, had more than ten years of experience, and could therefore be considered to be senior doctors. Breitbart et al in the New York found

that the more experienced doctors do not agree with the lack of knowledge as a barrier to pain management⁴⁰. Doctors with two years or less of experience constituted 26% of the total doctors who participated; these would be interns and Community Service doctors, who are expected to have the latest information from knowledge they acquired while training.

6.3.3 Field of practice

The largest groups were “other”, which included psychiatry, pediatrics and anesthesiology; and surgical which includes general surgery, ophthalmology, orthopedics, neurosurgery, ear nose and throat and obstetrics and gynecology. The departments which deal with most of the AIDS cases include internal medicine and family medicine. Emergency medicine is usually mainly involved in trauma, but at PMHC the department handles all walk in patients, including those who have to be admitted. Oncologists deal with palliative care patients daily, and would be expected to have an ideal level of knowledge, attitude and practice compared to other specialties, as reported by other studies^{3, 57}. HIV however, affects all field of practice, and all doctors are expected to have sound knowledge and skill to deal with these patients.

6.4. KNOWLEDGE OF DOCTORS AT PMHC

Knowledge will be discussed in terms of the level, as well as the individual questions to identify specific knowledge deficits.

6.4.1 Level of knowledge

The level of knowledge was computed by calculating the percentage total of correct answers. Previous studies looked at the level of knowledge of health professionals in managing pain, for both cancer and HIV. Even though different tools were used, most reported the results of knowledge as adequate, with deficits in some areas. It is important to recognize that our study used a different questionnaire to determine the level of knowledge.

In the present study, the level of knowledge was low. Almost one third of the doctors had a mean score of 62.5% and above; with 44.6% having a mean score of 37.5% or less. The mean score obtained was 46.92% (SD=41.90%; 51.94%). These results are slightly lower than those obtained by different authors; Zanolin *et al* (56.5%), Vincentin *et al* (65%), Lebovits *et al* (56%)^{2, 81, 96}.

The level of knowledge did not differ significantly by category, field of practice or years in practice. However, Interns had the highest mean score, while Community service doctors had the lowest knowledge. The reason for this is not clear, one might argue that interns are still retaining most of the knowledge gained during training, however, Community Service doctors would have been qualified 2 or 3 years prior. One would expect specialists to have more knowledge than lower category doctors, including interns. This is different in our study. Interns may, however, be having more knowledge because they have just qualified, and still have the latest information they obtained during their training. The fact that Community Service Doctors have the lowest means score has to be further investigated, as this may have implications for continuous education and training. The results we obtained are similar to those of Rama Sapir et al who found that the level of knowledge of doctors is the same irrespective of specialty or level of experience⁸⁰.

The group “other” and surgical had lower mean scores, while Emergency obtained the highest knowledge score. Ger and Elliot et al both identified surgeons as having lower knowledge scores compared to oncologists^{4, 84}. In this study however, oncologists did not perform the better as expected, but was not significantly different compared to other specialties. Similar finding were reported by Ramar Sapir et al in a study conducted in Israel; with oncologists no better than other specialties with regard to knowledge⁸⁰.

Zanolin *et al* however, found that anesthesiologists and emergency care doctors had better knowledge than other disciplines⁸¹.

Oncologists deal more with palliative care patients, and in some studies are used as a benchmark to assess the knowledge of other doctors. They are thus expected to have better knowledge on pain management. In this study most of the knowledge questions required knowledge on HIV/AIDS as well, which the oncologists might not have known.

In a similarly comparison, there was no statistical significant difference ($p=0.9423$) in the level of knowledge between doctors when compared by different levels of experience. In a study which looked at the barriers to pain management, Breitbart et al in the New York found that doctors with more experience were less likely to list lack of knowledge about pain management as one of the barriers, compared to those with less experience⁴⁰.

6.4.2 Pain as a problem

Almost seventy percent of the doctors acknowledge that pain in HIV/AIDS is a major problem. The majority are also aware that pain in HIV/AIDS is under diagnosed and undertreated. This is a positive response as this response highlights the fact that doctors need to be vigilant in trying to address pain management in HIV/AIDS patients, knowing that it is a common finding. Sapir in his study found that the physicians who were surveyed were aware that treating cancer pain is important ⁸¹.

6.4.3 When assessing an AIDS patient, do you ask the patient whether they experience pain?

The question on whether doctors actively ask patients whether they have pain reveals one of the challenges in pain management; only 16 (24.6%) of the doctors would always enquire about pain, 19(29.2%) would sometimes ask the patient about pain, while 18 (27.7%) would wait for the patient to report the pain. The fact that one third (27.7%) of the doctors would wait for the patient to report pain means that most of the patients would go through the system without proper assessment and management. Most patients perceive that if they complain about pain they would be regarded as difficult patients ⁹⁷, and most patient do not proactively report pain as they perceive that it is part of their condition, and does not have to be treated separately³⁹. It is important for doctors to be aware that part of managing pain is to always enquire about pain. Pain has been recommended as the 5th vital sign in some Counties in the USA, and the hospice movement is also influencing this⁹⁸.

The category of a doctor influenced whether or not they would always ask the patient about pain. Locally qualified specialists were more likely than interns and medical officer to ask patients about their pain. Similarly, foreign qualified specialists were more likely than interns, community service doctors and medical officers to ask patients about their pain. There was however no difference between the local and foreign qualified specialists. This could be explained by the fact that specialists are more experienced and aware that some patients do not volunteer information unless asked. The patient's reluctance to report pain has been highlighted as one of the major barriers to pain management, as they perceive pain to be part of progression of the disease ^{39, 40}.

According to Elliot et al in Minnesota and Breitbart et al in New York, doctors who were more experienced were more likely to cite patient reluctance to report pain compared to doctors who were less experienced ^{40, 84}. This notion has been reported

over the years and doctors are supposed to be informed during training sessions if they are not aware. Patients have also cited the fact that they are reluctant to report pain because of fear of being labeled difficult patients ⁹⁷.

When comparing the different specialties, Oncology doctors were more likely than doctors in Family Medicine to ask the patient about their pain proactively, while the group “other” (pediatrics, psychiatry and anesthesiology) were more likely than the oncology group to ask the patient proactively about their pain. Suggestions to declare pain the 5th vital sign have been put forward and adopted by a number of organizations, including palliative care physicians and nursing practitioners^{98, 99}. The implementation of the 5th sign would ensure that all patients are properly assessed for pain, and the severity of pain recorded, to facilitate monitoring of progress.

This study identified a number of knowledge deficits. Most of the doctors were aware that pain management in HIV/AIDS patients is a major problem, and that pain in these patients is under diagnosed and undertreated. Most of the doctors however, were not aware that between 68 and 88% of HIV/AIDS patients experience pain. The prevalence of pain in HIV/AIDS patients has been reported by different studies being 68-88% ⁹⁷, a decade ago, and found to be as high as 98% in stage IV HIV/AIDS patients in South Africa⁵. If doctors are not aware that almost all AIDS patients have pain, even if they regard pain management as a problem as mentioned earlier, they would not anticipate and enquire about pain, as indicated by the results on the question about assessment of pain above, where only 24.6% would always ask the patient about their pain. This is an important factor contributing to the under treatment of pain and to unnecessary suffering experienced by HIV positive patients who experience pain; hence the suggestion that pain be a 5th vital sign^{98, 99}.

6.4.4 Knowledge on WHO pain ladder

The knowledge of the WHO pain ladder revealed that most doctors have never heard of the WHO pain ladder, despite that fact it has been in existence for more than two decades. Only one third of the doctors had ever heard of the WHO pain ladder, with only one fifth being able to describe the steps. In essence only one fifth of doctors at PMHC are familiar with the WHO ladder. Even though other previous studies did not specifically ask whether doctors were familiar with the WHO ladder, questions on the applicability of the ladder were asked. A number of studies indicate that lack of knowledge on pain management and lack of access to pain specialists

are major barriers to adequate pain control^{3, 4, 40, 81}. Without any knowledge of the WHO pain ladder, it is unlikely that AIDS patients would get adequate management of their pain. Doctors would not know when to prescribe which drug. This will impact negatively on the quality of life of patients, as well as their right to pain relief.

There was a significant difference in knowledge of the WHO pain ladder by different fields of practice. Doctors in Oncology, as expected, were more aware of the WHO pain ladder versus doctors in the surgical disciplines. This could be explained by the fact that doctors in Oncology deal with cancer patients on an ongoing basis, and have been implementing the WHO pain ladder for cancer patients, as this ladder was initially designed for managing chronic pain in cancer patients. Similar results are obtained from other studies^{3, 4} where oncologists had better knowledge of the WHO pain ladder than other specialties.

There was, however, no significant difference in the knowledge of the WHO ladder between the doctors because of different years of experience.

There was no significant difference in the knowledge of WHO pain ladder when compared by the different categories of doctors. Interns showed similar lack of knowledge of the WHO pain ladder as specialists. This is an issue of concern as one expects specialists to have better knowledge on most topics compared to other doctors of lower category.

The knowledge of the WHO pain ladder was correlated with other questions to ascertain whether there was any relationship. There was a strong positive correlation between knowledge of the WHO pain ladder and knowledge of drugs for managing neuropathic pain, the route of administering morphine, management of moderate pain, prescription of laxatives when prescribing opioids, prescribing morphine at any time when pain is severe, the aim of pharmacological management and the use of adjuvants with other pain medication. This can be interpreted that those who have knowledge of the WHO pain ladder will more likely be able to apply their knowledge effectively in managing pain, to the benefit of patients. It is thus important for doctors to be offered CME on palliative care and pain management and the WHO pain ladder on an ongoing basis.

6.4.5 Cause of pain in AIDS patients

Almost half of the doctors indicated that pain in AIDS patients is caused by AIDS related conditions. Even though this is partly true, it is important to remember that the patient might be having other co morbidities, which are likely to cause pain. The biopsychosocial model has to be considered when managing patients to ensure total pain management. AIDS patients have been found to have at least 3 pains at any one time^{5, 62, 97}.

6.5 ATTITUDE

6.5.1 Level of attitude

In our study, a doctor with a preferable attitude is one which would promote pain control for the patient such as believing the patient, recognizing pain as a problem, not overemphasizing addiction as a result of morphine use. Those with lower attitude levels will be regarded as having a less preferable attitude. Less preferable attitude has been associated with behaviour which influences the way a doctor deal with patients in pain. These terms were chosen as they avoid labeling which might be interpreted as judgmental. Previous studies have used terms like “liberal”, “ideal”, “negative” and “erroneous” to describe the attitude of physicians^{2, 3, 4, 80}. The attitude level was generally better than the knowledge and practice levels, with a mean score of 64.61 (SD=59.03-70.19). In his study Levin describes the attitude of oncologists as “ideal”, with oncologists having answered questions assessing attitude appropriately. In our study, only one tenth of the doctors answered all questions correctly. These doctors we classify as having the most preferable attitude. Our results are similar to those of the study conducted by Levin et al, where primary care physicians had a score of 64% when compared to oncologists, who had a total of 100% score, which was regarded as the “ideal” score³. Ger in a study done in Taiwan found that physicians had a more “negative” attitude compared to previous studies he looked at⁴.

Comparison of attitude by category was statistically not significant, however, it is interesting to note that interns had the highest mean score for attitude (80.55%, SD=19.47); while Community Service Doctors had the lowest attitude mean score (52.39%, SD=17.81). The reason for the vast difference between interns and community service doctors cannot be explained; however it is a cause for concern and has to be investigated. “Negative” attitudes have been reported to result in

doctors practicing in a manner which is not appropriate, with patients not receiving quality pain management ⁴.

When comparing attitude by the field of practice, there was also no significant difference between the different specialties ($p=0.3524$). At face value, Oncologists have the highest mean score for attitude (77.76%, SD=17.20), followed by Family Medicine doctors (73.33%, SD=17.90). Previous studies found oncologists to have the “ideal” or “liberal” attitude ^{3, 57}. Ger found doctors in his study to have “negative” attitude, with surgeons being worse than other specialties. Our study found similar results, with the surgical group and the “other” group, having the lowest level of attitude compared to oncologists, Family Medicine, Emergency Medicine and Internal Medicine.

There was no significant difference in the attitude when compared by years of practice ($p=0.4178$). Though not statistically significant, doctors with only one year of experience however had the highest mean score (77.78%, SD=20.17). These are usually intern doctors. Doctors who have two years of experience (Community service doctors and interns in their 2nd year of internship), scored the lowest (57.58%, SD=27.23). One could argue that community service doctors are overworked and thus do not apply their mind when dealing with patients.

6.5.2 The best judge of pain

In our study the majority of doctors (89.2%) confirmed the belief that the patient is the best placed to decide whether they have pain or not. This differs from that obtained by Ger, who found that only 63% of health professionals believed that the patient is the best person to decide on their pain ⁴. In our study, this can be regarded as a positive sign; patients are likely to be believed when complaining of pain.

6.5.3 Reason for requesting more pain medication

Previous studies have revealed conflicting results on the question on why patients would request more pain medication. Our results concur with what Vincentin *et al* in Italy found. These however are different from the results obtained by Zanolin *et al* in Italy, and Ger in Taiwan, where only 25% of doctors believe that the reason for requesting more pain medication is because the patient is experiencing more pain ^{2,4, 82}. If more doctors believe that patients request more medication because they are in pain as found in our study, they are likely to be believed when complaining about pain; as confirmed by the question on the best judge of pain being the patient.

6.5.4 Likelihood of addiction

Doctors were asked what they thought the likelihood of addiction is when AIDS patients are given morphine.

This question may be regarded as knowledge by other researchers, however in our context, the knowledge of non addiction is present, but the attitude of doctors has not changed. Other studies have also included this question as attitude because it is believed that despite the knowledge, most doctors still believe that morphine causes addiction^{4, 80}. Sixty seven percent of the doctors in our study still overestimate the likelihood of a patient being addicted to morphine when given for pain. These results are similar to findings of previous studies, where the likelihood of addiction is exaggerated by doctors^{2, 4, 40, and 80}. The fear of patients developing addiction has also been cited as one of the barriers to optimal pain management by both patients and doctors^{39, 40}. This myth still continues to exist despite numerous studies highlighting the fact that opioids do not lead to addiction in patients with chronic severe pain. Opiophobia was first described over two decades ago and still remains a barrier resulting in patients not accessing the necessary drugs for pain^{42, 43, 78, 87}.

Analysis of variance was used to assess the relationship between the characteristics of the sample; category, field of practice and years of practice and the response to the question on likelihood of developing addiction. There was no significant difference in the response to likelihood of developing addiction when compared by category ($p=0.526$), field of practice ($p=0.288$), and years of practice ($p=0.588$). Previous studies reported that doctors with more experience were unlikely to site development of addiction as a barrier to pain management access⁴⁰. In some studies, primary care physicians and HIV physicians were more worried about addiction to morphine, compared to oncologists^{4, 57, and 90}.

The response to the question on the likelihood of developing addiction was correlated with responses to some of the questions to assess if there was any correlation. The following responses were found to have a strong correlation with the following:

- At what stage would you prescribe morphine for severe pain in AIDS patients:
I would prescribe morphine at any time when there was severe pain
- The knowledge of the WHO pain ladder

- I will always prescribe laxative when prescribing morphine
- For management of moderate pain, I will prescribe an opioid
- Prescription of morphine
- Use of adjuvants

All the above questions deal with how and when to prescribe opioids. As with the knowledge of the WHO pain ladder, there is a strong correlation between the understanding of the likelihood of addiction when given morphine for chronic pain and prescribing morphine to patients. Thus doctors who believe that there is a high likelihood of developing addiction are the ones who would not have appropriate knowledge on using opioids.

6.5.5 At what stage would you recommend morphine for severe pain for AIDS patients

Studies have revealed that many doctors would wait until patients are terminal before offering them adequate levels of opioids^{55, 60, 71, 72}; this means that patients are denied drugs they deserve. When asked about when they would prescribe morphine for severe pain, 78.5% of the doctors in this agreed that they would give morphine to patients at any time when pain is severe. This is a positive response as the majority of the doctors would not wait for the patient to be terminal before offering appropriate medication. Previous studies found that most doctors, with the exception of oncologists, were reluctant to give high doses of morphine unless patients were terminal^{3, 4, 57, 78, and 80}. There was no relationship between any of the demographic variables and the question on when to prescribe morphine in our study.

6.6 PRACTICE PATTERNS OF DOCTORS

6.6.1 Level of practice pattern

The practice patterns of doctors at PHMC related to pain management have been found not to be satisfactory; and this raises some concerns. In a study commissioned by the Gauteng Department of Health, Mathabathe and Kalete found that during 2002, 41.7% (CI 28%-55.4%) of adult medical admissions to hospitals in Gauteng Province are HIV related in South Africa¹. The study also showed that patients with HIV had a longer average length of stay in hospital compared to other patients.

Comparison of the practice patterns by category was statistically significant ($p=0.0327$), with local specialists having the highest mean score and medical officers and Community Service doctors having the lowest mean scores.

Interns have a better practice patterns than Community Service doctors and Medical officers. Whether this translates into the fact that Interns may unlearn good practices and develop less preferable attitudes after some time needs to be investigated. Further research which would include the training institutions would probably clarify this question.

Practice patterns were also compared by field of practice, and found to be statistically significant different ($p=0.0171$). In our study, oncologists have been found to have better practice patterns compared to “other” group, surgical and Family Medicine doctors. Similar results were obtained previously^{2, 3, 4}; with oncologists being rated as having the “ideal” behavior when compared primary care physicians and HIV specialists.

When comparing practice pattern by years of practice, no significant difference was found between the different years of experience. However, those with one year experience had scores similar to those with more than 10 years of experience. Those with 2 years experience had the lowest mean score (37.62%, SD=19.43). The level of experience thus has no impact on the practice pattern of doctors in this study. As with attitude, good practice declined after the internship year. As indicated earlier, this is a cause for concern.

Practice patterns were analyzed further by assessing the response to some of the individual questions.

6.6.2 Route for administering morphine

When asked what the best route for administering morphine was, most doctors (61%) indicated that oral is the best route, while 18.5% and 9.2% still believe that IV or IM respectively, routes are the best. There is no added benefit in the availability of morphine when given orally compared to IV, while intramuscular injection has a quicker onset of action compared to oral¹⁰¹. The WHO pain ladder recommends the oral route as the preferred route for giving morphine²⁸.

These results are similar to those obtained in studies by Zanolin *et al* (55.8%) and Vincentin *et al* (67%), but differs from results obtained by Ger, where 66.2% (7.4% strongly agree and 55.8% agree) of doctors believed that the parenteral route is more efficacious than oral for pain management^{2, 4, 81}.

6.6.3 Laxative prescription

Only 15.4% of the doctors would routinely prescribe laxatives to prevent constipation when prescribing morphine. This is despite the fact that constipation is a known side effect which has to be anticipated and prevented when prescribing opioids. This is probably related to the fact that most doctors are not familiar with the WHO pain ladder, and do not prescribe opioids regularly. When constipation is not prevented by proactively prescribing laxatives, patients will develop constipation with its complications.

However, in HIV/AIDS patients, the constipating effect of opioids might be welcome as many patients have chronic diarrhea. In the HIV setting, laxatives should be prescribed with caution.

There was a strong correlation between laxative prescription and the knowledge of WHO pain ladder. Those doctors who knew about the WHO pain ladder are more likely to know that laxatives have to be prescribed when opioids are given.

6.6.4 Aim of pharmacological management of pain

Eighty three percent of participants acknowledge that the aim of pharmacological management of pain is complete pain relief, which is similar to results obtained by Ferrell et al , but different from what Ger in Taiwan found, with 69% of the doctors aiming for reduction in pain level, instead of complete pain relief ^{4, 89}. When doctors aim for complete pain relief, one would expect that with enough training on pain management, patients would benefit as doctors would already be aware that complete pain relief is what is required.

6.6.5 Management of moderate pain

The majority of doctors (80%) would only prescribe paracetamol and NSAIDS for moderate pain, even though according to the WHO pain ladder, a weak opioid in addition to step 1, has to be prescribed for moderate pain. However, almost the same amounts of doctors (73.8%) are aware that for severe pain, morphine has to be prescribed. According to Stanford, most of the drugs for palliative care are available in both primary health care facilities and hospitals ⁵⁰. Help the Hospice commissioned a survey in 2007 to assess ability of palliative care units to prescribe pain medication to patients. The study was conducted in Asia, Africa and Latin America. This survey revealed that only 55% of facilities surveyed had weak opioids available at all times⁵⁵. The results also further indicate that in Africa, 25% of facilities never have a weak opioid available; while 21% never have morphine available.

6.7. CORRELATION BETWEEN KNOWLEDGE, ATTITUDE AND PRACTICE

According to our results, the level of knowledge was found to have a slight positive relationship with the level of attitude, as well as the practice pattern. Attitude was also found to have a positive linear relationship with practice pattern.

A previous study has not been able to prove any association between knowledge and practice or attitude³. When factors which influenced the practice pattern of doctors were explored, medical training, social influences and peer influence were found to play a major role in how doctors practice⁸⁴. Temin further alludes to the fact that physicians ignore the outcome of their actions, and focus on what they have to do, when compared to expectations from peers¹⁰¹.

A study which assessed the knowledge and attitude of state medical regulators found that knowledge and attitude improved after training, compared to the baseline study⁹⁰.

6.8. LIMITATIONS OF THE STUDY

The study was done at PMHC, a hospital in Limpopo Province which is the referral centre for district and secondary hospital in Limpopo. Convenient sampling was used, thus the sample is not representative of the doctor population both in Limpopo and South Africa at large.

In the development of the questionnaire attention was paid to face validity and content validity, however the small pilot of the questionnaire was insufficient to validate the questionnaire for data collection in further studies and it is recommended that a validation of a tool would be advisable.

The response rate was low at 52%. One is not able to know how the doctors who did not participate could have answered. The doctors who responded to the questionnaire could have been those who had some knowledge on the topics discussed. The results of the study cannot be extrapolated to other hospitals in the province or other doctors in South Africa because it is not representative of the doctor population.

One is not able to know how the doctors who were excluded from the study; those who did not attend the meetings, those who were not willing to consent, and those who would respond to the questionnaire.

Some of the questionnaires were returned after a few days; this could have given other doctors an opportunity to consult text books to answer the questions, thus creating information bias.

Question 2 which had two possible answers could have influence how some of the doctors were rated; because both answers were regarded as correct. One cannot assume that they would have given the same answer if both statements were combined.

The question regarding the likelihood of developing addiction was classified as part of attitude in this study. Although it might be regarded as assessing the level of knowledge regarding opioids, the attitude of the doctors within the South African context seem to influence how they apply this knowledge in managing pain; hence it was included as part of assessment of the attitude of doctors.

University Of Cape Town

CHAPTER 7

CONCLUSIONS

7.1 Introduction

This chapter will summarize the major observations from the study. Conclusion from the study will be drawn, followed by recommendations to both the hospitals and the Provincial Department of Health and Social Development.

7.2 Conclusion

This study has managed to describe the level of knowledge, the level of attitude and the practice pattern of doctors at PMHC, in Limpopo Province. It has also described the relationship between the levels of knowledge, level of attitude and the practice pattern of doctors.

The level of knowledge has been found to be lower than most studies done previously^{2, 4, and 81}. There was no significant difference in the level of knowledge when compared by different categories, years of experience and the field of practice.

Knowledge deficits were identified in some of the questions regarding knowledge. Doctors at PMHC were aware that managing pain in HIV/AIDS patients is a problem, but only one third were aware that close to all patients experience pain. Doctors are also not familiar with the WHO pain ladder.

The attitude of the doctors was not satisfactory, with only one tenth having the preferable attitude score. Doctors still believe that there is a substantial risk of developing addiction to morphine; however, most of them will not withhold morphine from patients when they are in pain even if they are not yet terminal. The majority of the doctors also acknowledge that the patient is the best to describe their pain.

Community Service doctors have the worst level of attitude, a point worth investigating further.

The practice pattern differed significantly when compared by category and specialty; with Medical officers and Community Service doctors having the worst practice patterns, and Oncologists having the best practice pattern.

Unlike in other studies, a correlation was found between the level of knowledge and the level of attitude and the level of knowledge and the practice pattern. The level of attitude was also found to be correlated to the practice pattern.

The scourge of HIV and AIDS has left the health system overwhelmed, with most of admissions being those associated with AIDS progression and complications. The importance of incorporating palliative care in the care for those infected by HIV has also been stressed previously^{33, 34, 35, and 56}. For patients to be given holistic care it is important for health professionals to be informed and skilled on how to manage these patients including managing palliative care symptoms. The South African Department of Health has guidelines for HIV/AIDS Palliative Care. The importance of palliative and pain management education programmes for doctors and other health professionals has been emphasized previously. These programmes could target those doctors who are already practicing through continuous medical education and in service training. Curricular for undergraduate training for all health professionals should be revised to include palliative care training.

7.3 RECOMMENDATIONS

7.3.1 Recommendations for the Department of Health and Social Development

- i. The Department to ensure that training of health professionals on palliative care and pain management is planned for. There is HIV/AIDS management training that is taking place in the department, which briefly deals with pain management in HIV/AIDS. The training could be structured to increase the curriculum of Palliative Care training in these modules. Limpopo Province has an Oncology unit which treats cancer patients. These patients experience pain and other symptoms which have to be managed to improve their quality of life. Without the knowledge of the WHO pain ladder, doctors are not being in a position to effectively manage these patients.
- ii. Training of trainers could be another option, where institutions train few health professionals, who will then be responsible for training locally, with mentoring from the original trainers.

- iii. All doctors and other health professional should receive ongoing training in pain management and palliative care as part of the CME programmes, which should be coupled with mentoring to ensure that the information is implemented. Training should include all health professionals; nurses, doctors, pharmacists, psychologists, social workers.

7.3.2 Recommendation for Polokwane/Mankweng Hospital Complex

- i. The hospital has to recognize chronic pain management as a problem, and prioritize this as a quality improvement project
- ii. Develop a plan on how to deal with pain management.
- iii. Discuss a plan on how health professionals can be trained. Few doctors could be identified and sent for further training on Palliative care, with the aim that they will ensure that there is continuity and sustainability of the programme. Presently, the University of Cape Town has a postgraduate diploma which can be budgeted for.
- iv. Ensure that guidelines and protocols are developed using reliable evidence and implemented. These have to be reviewed regularly as new information become available.
- v. Ensure availability of palliative care drugs for managing pain and other symptoms. The WHO has developed an EDL for palliative care drugs which is accessible.

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Appendix I

Revised World Health Organization (WHO) Clinical Staging of HIV/AIDS for Adults and Adolescents

Primary HIV infection

Asymptomatic

Acute retroviral syndrome

Clinical Stage 1

- Asymptomatic
- Persistent generalized lymphadenopathy

Clinical Stage 2

- Moderate and unexplained weight loss (<10% of presumed or measured body weight)
- Recurrent respiratory infections
- Herpes zoster
- Recurrent oral ulcerations
- Papular pruritic eruptions
- Angular cheilitis
- Seborrhoeic dermatitis
- Fungal finger nail infections

Clinical Stage 3

- Conditions where a presumptive diagnosis can be made on the basis of clinical signs or simple investigations
- Unexplained chronic diarrhea for longer than one month
- Unexplained persistent fever
- Severe weight loss
- Oral candidiasis
- Oral hairy leukoplakia
- Pulmonary tuberculosis diagnosed in the last two years
- Severe presumed bacterial infection
- Acute necrotizing ulcerative stomatitis, gingivitis or periodontitis

- Unexplained anaemia/thrombocytopenia

Clinical Stage 4

- HIV wasting syndrome
- Pneumocystis pneumonia
- Recurrent severe or radiological bacterial pneumonia
- Chronic herpes simplex
- Oesophageal candidiasis
- Extrapulmonary TB
- Kaposi sarcoma
- Central nervous system toxoplasmosis
- HIV encephalopathy
- Extrapulmonary cryptococcal meningitis
- Disseminated non-tuberculous mycobacterium infection
- Progressive multifocal leukoencephalopathy
- Candida of the trachea, bronchi or lung
- Isospora
- CMV infection
- Lymphoma
- Invasive cervical cancer
- Visceral leishmaniasis

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Appendix II

DOCTORS INFORMATION LEAFLET

RESEARCH PROJECT TITLE: KNOWLEDGE, ATTITUDES AND PRACTICES OF HEALTH PROFESSIONALS IN MANAGEMENT OF PAIN IN AIDS PATIENTS

INTRODUCTION

You are invited to participate in a research study, which is part of a quality improvement project for the hospital. This information leaflet is designed to give you information, which will enable you to decide if you would like to participate, or not. Your participation should be voluntary.

PURPOSE OF THE STUDY

AIDS has reached epidemic proportions in our country, and the introduction of HAART has changed the progression of the disease for the few that have been able to access treatment. AIDS patients present to all clinical disciplines and it is important for all doctors to be aware of how to manage pain in these patients. The purpose of the study is to improve the quality of care in AIDS patients.

AIM OF THE STUDY

The study aims to assess the knowledge, the attitudes and practices of doctors in PMHC. The results of the study will help us identify gaps if any, in all the aspects which will be assessed. Quality improvement programme will be designed depending on the results, the aim being to improve care of AIDS patients presenting to the institution.

ETHICAL APPROVAL

The study has been given ethical approval by the Cape Town University Ethics Committee and The Limpopo Department of Health and Social Services. Permission has also been obtained from management of PMHC.

CONFIDENTIALITY

All the information obtained during the study will be kept confidential. The demographic information obtained from doctors will not include personal information, as the questionnaires are anonymous.

RISK INVOLVED

There is no risk involved in participating in the study.

SOURCE OF ADDITIONAL INFORMATION

Any additional information that you require during the study can be obtained from Dr MJA Ratshikana-Moloko (082 421 9309).

.....
Dr MJA Ratshikana-Moloko

Please sign below if prepared to participate.

.....
Participant

Appendix III

Questionnaire

DEMOGRAPHIC DATA

Please tick the relevant sections

Category	Intern	
	COSMO	
	Medical Officer	
	Locally qualified Specialist	
	Foreign qualified Specialist	
Field of Practice/where allocated	Internal Medicine	
	Family Medicine	
	Emergency	
	Medicine	
	Surgery, Neuro-surgery, Orthopedics, Ophthalmology, ENT	
	O&G	
	Oncology	
	Other	
Years of experience	1	
	2	
	3-4	
	5-10	
	>10	

PAIN IN HIV AND AIDS PATIENTS

Please tick the correct answer, **only one** answer is correct:

1. Do you believe the management of pain in HIV and AIDS patients is a major problem? (**tick one**)
 - ☐ Major problem
 - ☐ Somewhat a problem
 - ☐ A minor problem
 - ☐ Not a problem
2. In your opinion in which of the following statements is true? (**tick one**)
 - ☐ Most AIDS patients receive adequate pain management
 - ☐ AIDS Patients receive more pain medication than necessary
 - ☐ The majority of AIDS patients with pain are under treated
 - ☐ In the majority of AIDS patients, pain is under diagnosed
3. When assessing an AIDS patient, do you ask the patient whether they experience pain? (**tick one**)
 - ☐ Always
 - ☐ Sometimes
 - ☐ Wait for the patient to report the pain
 - ☐ Do not actively enquire about pain
4. According to your experience, what percentage of AIDS patients experience pain? (**tick one**)
 - ☐ 10-35%
 - ☐ 36-55%
 - ☐ 56-70%
 - ☐ 71-90%
 - ☐ 91-100%
5. Pain experienced by AIDS patients is due to the following (**tick one**)
 - ☐ AIDS related conditions
 - ☐ Diabetic neuropathy
 - ☐ ARVs
 - ☐ Antimycobacterials
 - ☐ All of the above

6. According to your experience, pain in AIDS patients can be managed using: **(tick one)**
- ☐ Paracetamol
 - ☐ NSAIDS
 - ☐ Amitriptyline
 - ☐ Morphine
 - ☐ All of the above
7. The best judge of pain in AIDS patients is: **(tick one)**
- ☐ The nurse
 - ☐ The physician
 - ☐ The family member
 - ☐ The patient
8. The most likely reason why a patient would request increasing doses of pain medication is: **(tick one)**
- ☐ The patient is experiencing more pain
 - ☐ The patient is probably addicted to medication
 - ☐ The patient is becoming depressed
 - ☐ The patient is requesting more attention from staff
9. At what stage would you recommend morphine for treatment of severe pain in AIDS patients? **(tick one)**
- ☐ Never
 - ☐ When pain is mild
 - ☐ When the prognosis is less than 3 months
 - ☐ At any time when the pain is severe
10. Why would you not recommend morphine to patients? **(tick one)**
- ☐ Because it is addictive
 - ☐ Because it has a lot of side effects
 - ☐ Because there are legislative restrictions in prescribing morphine
 - ☐ I will recommend morphine for severe pain
11. Morphine causes: **(tick one)**
- ☐ Physical dependence in majority of patients
 - ☐ Psychological dependence
 - ☐ Constipation
 - ☐ None of the above

12. In your opinion, the likelihood of developing addiction to morphine in AIDS patients is: **(tick one)**
- ☐ High
 - ☐ Moderate
 - ☐ Low
 - ☐ None of the above
13. The following drugs are used for treatment of neuropathic pain: **(tick one)**
- ☐ NSAIDS
 - ☐ Tricyclic antidepressants
 - ☐ Anticonvulsants
 - ☐ Paracetamol
 - ☐ All of the above
14. Are you familiar with the WHO ladder for pain management? **(tick one)**
- ☐ Yes
 - ☐ No
15. If Yes, can you list the steps
-
 -
 -
 -
 -
16. The best route of choice for administration of morphine is: **(tick one)**
- ☐ Oral
 - ☐ Subcutaneous
 - ☐ Intravenous
 - ☐ Intramuscular
17. When giving morphine for chronic pain **(tick one)**
- ☐ It is advisable not to prescribe other drugs
 - ☐ Laxatives should be prescribed
 - ☐ Laxatives should be prescribed if constipation develops
 - ☐ It is not necessary to prescribe a laxative
18. For moderate pain I will **(tick one)**
- ☐ Always prescribe an opioid
 - ☐ Only prescribe paracetamol and NSAIDS
 - ☐ Do not know

19. I will prescribe morphine to patients(**tick one**)
- ☐ When pain gets severe at any time of the illness
 - ☐ Only when the patient is terminal
20. The aim of pharmacological intervention is (**tick one**)
- ☐ Partial pain relief
 - ☐ Complete pain relief
 - ☐ Moderate pain relief
22. In managing severe pain, I(**tick one**)
- ☐ Always prescribe an adjuvant
 - ☐ Find it is not necessary to prescribe an adjuvant
 - ☐ Do not know

University Of Cape Town

Appendix IV

UNIVERSITY OF CAPE TOWN



Health Sciences Faculty
Research Ethics Committee
Room E53-24 Groote Schuur Hospital Old Main Building
Observatory 7925
Telephone [021] 406 6338 • Facsimile [021] 406 6411
e-mail: preaward@curie.uct.ac.za

18 July 2006

REC REF: 257/2006

Dr. MJA Ratshikana-Moloko
Family Medicine

Dear Dr. Ratshikana-Moloko

**KNOWLEDGE ATTITUDES AND PRACTICES OF HEALTH PROFESSIONALS IN
MANAGEMENT OF PAIN IN AIDS PATIENTS**

Thank you for submitting your study to the research Ethics committee for review. It is a pleasure to inform you that the committee has approved the above mentioned study.

Please insert a space for participants' signature on the consent form.

Please quote the REC. REF in all your correspondence.

Yours sincerely

DR. M BLOCKMAN
CHAIRPERSON



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH & SOCIAL DEVELOPMENT

Enquiries: Malomane EL

Ref: 4/2/2

5 February, 2007

Dr MJA Ratshikona-Moloko
University of Venda

Dear Dr MJA Ratshikona-Moloko

**Knowledge, Attitudes and Practices of Health Professionals in Management of
Pain in Cancer patients**

- Permission is hereby granted to Dr MJA Ratshikona-Moloko to conduct the study as mentioned above in Limpopo Province (Polokwane-Mankweng Complex)
- The Department of Health and Social Development will expect a copy of the completed research for its own resource centre after completion of the study.
- The Researcher/s should be prepared to assist in interpretation and implementation of the recommendations where possible
- The Institution management where the study is being conducted should be made aware of this,
- A copy of the permission letter can be forwarded to Management of the Institutions concerned

HEAD OF DEPARTMENT
HEALTH AND SOCIAL DEVELOPMENT
LIMPOPO PROVINCE
Date: